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Exploring the potential for a Global Behavioral Sciences and Health Education program at the Rollins School of Public Health

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Abstract

Exploring the potential for a Global Behavioral Sciences and Health Education program at the Rollins School of Public Health

By Gaëlle L. Sabben

Many students at Rollins School of Public Health (RSPH) have professional interests that are not limited to a single department. However, most RSPH students must currently complete their degree in a single department. Two cross-departmental programs were developed in response to student interest: Global Environmental Health and Global Epidemiology. This study seeks to understand what gaps in training exist for students with interdepartmental interests in Global Health (GH) and Behavioral Sciences and Health Education (BSHE) and how those gaps can realistically be addressed by RSPH.

A mixed method design was used in this study. Results of a web-based survey, distributed via email to 199 students and 1848 alumni (1977-2014) from the GH and BSHE Departments, were analyzed. Qualitative interviews with 8 students, 5 alumni, and 9 faculty members, administrators and department chairs were recorded, transcribed and thematically analyzed. Additionally, global and behavioral/health education-oriented programs offered by other schools of public health (SPH) were compared with RSPH's degree options.

Current RSPH degrees do not fully meet the needs of students who have cross-departmental interests, although most students and alumni were satisfied with their degrees. Almost one quarter of survey respondents would have applied for a Global BSHE degree had it been offered and 60% support the development of such a degree. Interviewees generally supported the possibility of developing this program, though noted the need to consider faculty burden and curriculum flexibility for students. Interdisciplinary program options (certificates and flexible curricula) are available at other SPHs, however few offer truly joint program options where students are able to fully develop both GH and BSHE-type competencies.

Developing a Global BSHE degree could benefit RSPH by differentiating it from other SPHs. If such a degree is developed, balancing GH and BSHE requirements and engaging both Departments in deciding on admission and degree completion requirements will be crucial. In the shorter term, GH students need more exposure to behavioral theories and BSHE students to public health practice with non-US populations. Developing new courses in public health programming, evaluating existing programs, and assessing employer needs will also help improve the training RSPH offers its students.

Exploring the potential for a Global Behavioral Sciences and Health Education program at the Rollins School of Public Health

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I-Background

The Rollins School of Public Health (RSPH) is one of the top ten schools of public health in the United States. As such, it draws an array of students and professionals who intend to engage in public health work around the world and bring with them a variety of academic and professional experiences and goals.

The School is made up of six departments: Behavioral Sciences and Health Education (BSHE), Biostatistics and Bioinformatics (BIOS), Environmental Health (EH), Epidemiology (EPI), Health Policy and Management (HPM) and the Hubert Department of Global Health (HDGH). RSPH offers MPH degrees from each department; MSPH degrees in the BIOS, EPI and HPM departments; and interdepartmental programs in Global Environmental Health (GEH), Global Epidemiology (GLEPI) (MPH and MSPH) and Environmental Health/ Epidemiology (EH/EPI) (MSPH) ("Degree Programs," 2014).

Many students who attend RSPH have academic and professional interests that are not limited to a single department. Although students are able to take courses outside their departments, GEH and GLEPI are the only two approved interdepartmental courses of study combining global work with another discipline. The GEH program was instituted in 2001 and the GLEPI program in 2004, after students expressed interest in applying a global lens to epidemiological and environmental health concerns (Roger Rochat, personal communication, March 2014; Alvin Shultz, personal communication, April 13th 2015).

At RSPH, increasing numbers of students plan to practice public health beyond a purely domestic scope. Additionally, due to their previous academic and professional experience in public health, many strongly value the use of behavior change theory as a basis for the interventions and research they plan to engage in as public health professionals. These students

and their academic and professional interests and goals fall at the intersection of what RSPH offers through its Global Health (GH) and BSHE degrees. Such students might benefit from a pre-planned course of study that would integrate global health and behavioral sciences and health education paradigms, in a way that it is difficult - although not impossible - to do within the current academic programs.

When developing a new academic program, this program should fill an existing need and be beneficial both to the students who pursue the program and to the school that houses it. When RSPH leadership developed the GLEPI and GEH programs, they were responding to student interest and at the same time positioning the School ahead of its competitors who did not, at the time, offer similarly interdisciplinary programs. However, these programs were developed mostly by faculty with minimal student input about what courses and skills would be most important to master before engaging in epidemiology or environmental health outside the United States or beyond domestic populations (Roger Rochat, personal communication, March 2014). An academic program designed around student- and alumni-identified needs and approved by faculty would have greater potential to ensure that students receive the high-quality targeted training they will need to be successful in the type of public health work they want to pursue. Additionally, if this type of training is not available at similar institutions, offering such a program would boost RSPH's position as a top school for the innovative training of public health professionals.

Study Rationale and Justification

The goal of this study was to explore the potential for a Global-BSHE program. This study aimed to identify the desirability of such a program among students and alumni, the perceived

feasibility among faculty and department chairs as well as provide some guidance for how a Global-BSHE course of study could be structured to best serve the identified stakeholders (department chairs, faculty, students).

Before spending time and resources developing an additional program of study, it is valuable for RSPH to know how this program, if offered, would be perceived to benefit students. Additionally, by engaging students and faculty whose interests span GH and BSHE domains, this study ensured that any proposed program would effectively address the gaps in learning opportunities identified by current faculty and students who have chosen between the HDGH and BSHE Department.

Questions that were addressed included:

- What behavioral sciences/ health education and global health skills are necessary for students intending to work in behavioral/ health education work with transnational populations?
- How well is RSPH preparing students who intend to engage in behavioral/ health education work with transnational populations?
- How interested would students have been in a Global-BSHE program, had it been offered when they applied to RSPH?
- What barriers do faculty and administrators anticipate would affect the development of a Global-BSHE program?
- How would the addition of a Global-BSHE program affect the competitiveness of RSPH in comparison to similar schools of public health?
- How could a Global-BSHE program be structured to maximize its desirability and usefulness for students?

By developing a more complete picture of how students, faculty and alumni perceive this proposed additional degree program, as well as a deeper understanding of the potential barriers to its development, this study will assess the potential of the proposed additional Global-BSHE program. By gathering opinions about the skills and knowledge that are crucial to a successful global behavioral scientist or global health educator, this study will additionally provide a blueprint for the structure of this program, if its development is indeed deemed to be warranted.

Abbreviations

ADAP- Associate Director of Academic Programs
BIOS- Biostatistics
BSHE- Behavioral Sciences and Health Education
CHD- Concentration in Community Health and Development (Hubert Department of Global Health)
EH- Environmental Health
EPI- Epidemiology
GEH- Global Environmental Health (GH-EH interdepartmental program)
GH- Global Health
GFE- Global Field Experience
GLEPI- Global Epidemiology (GH-EPI interdepartmental program)
Global-BSHE- proposed GH-BSHE interdepartmental program
HDGH- Hubert Department of Global Health
HPM- Health Policy and Management
ID- Concentration in Infectious Diseases (HDGH)
MPH- Master of Public Health
MSPH- Master of Science in Public Health
PN- Concentration in Public Nutrition (HDGH)
RSPH- Rollins School of Public Health
SFE- Summer Field Experience
SRHPS- Concentration in Sexual and Reproductive Health and Population Studies (HDGH)

II- Literature Review

Every year, US News ranks graduate and undergraduate academic institutions. In 2011 and 2015, forty-three schools of public health were ranked. Both years, Johns Hopkins' Bloomberg School of Public Health (JHSPH) topped the list, with Emory's Rollins School of Public Health (RSPH) tying for 6th place with the University of Washington School of Public Health (UW) in 2011 and sliding to 7th place after UW in 2015 (U.S. News & World Report, 2015).

2011 Rank	2015 Rank	
1	1	Johns Hopkins Bloomberg School of Public Health
2	2	University of North Carolina- Chapel Hill Gillings School of Global Public Health
3	2	Harvard T.H. Chan School of Public Health
4	4	University of Michigan- Ann Arbor School of Public Health
5	5	Columbia University Mailman School of Public Health
6	6	University of Washington School of Public Health
6	7	Emory University Rollins School of Public Health

In 2006, the Association of Schools of Public Health (ASPH) identified a core of public health competencies in which all schools of public health accredited by the Council of Education for Public Health (CEPH) must train their students. These cover discipline-specific skills in biostatistics, environmental health sciences, epidemiology, health policy and management, social and behavioral sciences, as well as the interdisciplinary skills of communication and informatics, diversity and culture, leadership, public health biology, professionalism, program planning and systems thinking (ASPPH, 2006). The competencies were revised in 2014 in an effort to better guide curriculum development in the 21st century. In each domain, some competencies are "foundational" and expected to be grasped by all students of public health, while others are intended for students concentrating in a particular discipline.

All accredited schools of public health offer programs in the five core public health disciplines. Since global health is not considered a separate discipline, not all schools of public health have an independent degree program focused on it (CEPH, 2011). Academic program

offerings are not identical across schools, nor are the competencies approached in the same way across programs. In particular, schools are reacting to the changing landscape of public health differently. A recent focus has been the increasing pace of globalization and the resulting changing public health needs of the world. In particular, there is increasing need for students to be trained to work globally, to learn to contribute to global public health effectively (Kerry et al., 2011). Several schools of public health, RSPH included, have revised their curricula to add global and interdisciplinary perspectives to the skills they are teaching their students. Some have done it through elective courses, others have required courses that train students to work across disciplines.

Columbia University's new Columbia MPH program, for example, was born out of a need to graduate students who can successfully tackle current and future public health challenges (Fried, Begg, Bayer, & Galea, 2013). In revising their MPH program, Fried and her colleagues proposed interdisciplinary training that mirrors the real world of public health practice and integrates knowledge across disciplines, in part through case-based learning. In a departure from more traditional curricula, the Columbia MPH does not silo training by discipline; rather it teaches an integrated core class that all entering students must take (Begg, Galea, Bayer, Walker, & Fried, 2013).

RSPH addressed the need for students to be trained to think in an interdisciplinary manner and to begin thinking globally through the addition of an introductory class required of all students not pursuing an MPH in Global Health. Similarly to the Columbia MPH's emphasis on case-based learning and interdisciplinary knowledge sharing, the course design aims to reflect the real world of global public health practice (Winskell, Evans, Stephenson, Del Rio, & Curran, 2014). Students pursuing an MPH in Global Health now receive similar training through a

different case-based course that they take as a cohort (Leon, Winskell, McFarland, & Del Rio, 2015).

The focus of this research project is to understand how students whose professional goals lie at the intersection of global health and social and behavioral sciences are trained at RSPH; to compare this to training available at similarly prestigious schools; and to ultimately make recommendations about ways in which RSPH can better serve these students.

To this end, it is crucial to understand what degree options are available to students who have this interdisciplinary goal, both at RSPH and at similar schools. Per CEPH accreditation requirements, "all graduate professional degree public health students must complete sufficient coursework to attain depth and breadth in the five core areas of public health knowledge"(CEPH, 2011), hence these courses and competencies are not addressed here. School-specific competencies for all programs discussed here are available in Appendix A.

Emory University Rollins School of Public Health (RSPH)

The first step towards the development of RSPH as it stands today was taken in 1990, when Emory, building on the already available Masters of Community Health program, founded a full-fledged School of Public Health. In 1994, it became the Rollins School of Public Health. The School's CEPH accreditation was extended in 2012 and will hold until 2019 (Rollins School of Public Health, 2014).

In addition to its six departments and two interdepartmental degree options, RSPH offers several interdepartmental certificate options. Students may, in addition to their departmental degree, choose to pursue one of several certificate programs offered across the school. These certificates allow students to further specialize in an area of interest, such as such as Complex

Humanitarian Emergencies (CHE), Socio-Contextual Determinants of Health, Mental Health, Maternal and Child Health (MCH) and Water, Sanitation and Hygiene (WASH).

MPH in Global Health (GH)

The Hubert Department of Global Health (HDGH) was born from the Department of International Health, itself developed from RSPH's original International Health track (Evelyn Howatt, personal communication, April 1st 2015). In existence under its current name since 2006, the HDGH "seeks to strengthen the capacities of individuals, families, communities, societies, and governments by identifying and reducing global inequities in health and well-being" ("Hubert Department of Global Health (GH)," 2014). Global Health (GH) MPH students choose one of four thematic concentrations: Community Health and Development (CHD); Infectious Diseases (ID); Public Nutrition (PN); and Sexual and Reproductive Health and Population Studies (SRHPS) ("Degree Programs," 2014).

Regardless of their concentration and certificate, all students in the HDGH are required to complete core courses that lay the foundation for their more specialized training. Core competencies are acquired through a combination of core courses and electives, which students select with help from academic advisors (ADAPs) and faculty advisors. The required curriculum is structured as follows:

Course Number	Course Title	Credits
BIOS 500	Statistical Methods I	4
EPI 530	Epidemiologic Methods I	4
HPM 500	Introduction to the US Health Care System	2
EH 500	Perspectives in Environmental Health	2
BSHE 500	Behavioral and Social Sciences in Public Health	2

Global Health Core

GH 501	Global Challenges and Opportunities	3
GH 542	Evidence-Based Strategic Planning	3

Six additional departmentally approved methods credits, as well as a 4-credit thesis project and a practicum round out the core GH MPH requirements. The GH-approved methods courses include courses across all RSPH departments. Of the forty-four courses that meet the HDGH criteria for an approved methods course, twenty-three are GH courses, ten are EPI courses, four are offered in the Biostatistics Department, five in Environmental Health and two in Health Policy and Management. None are offered by the BSHE Department. The GH core is made up of twenty-six credits, including the six methods credits, and the six or so required by each concentration.

The HDGH curriculum seeks to ensure that students are able to critically articulate and discuss: the forces that affect health globally; competing health priorities; health systems; and the evidence base necessary to make future health decisions in a variety of settings. Across these competencies is an emphasis on research, critical analysis, and improving health in individuals as well as communities and even populations. Students are expected to conduct research, from the inception of a research question and literature review all the way through to presenting findings and discussing public health implications. Students are expected to acquire some of these competencies in core courses and others in electives, through the required thesis project, or as part of the required practicum ("Clifton Notes for MPH/MSPH Students, 2013-2014 Academic Year," 2013).

Each thematic concentration has its own required supplemental classes and associated competencies. Students in the ID concentration develop the ability to critique infection control strategies, to use epidemiological methods and clinical understanding of pathogens and to develop surveillance systems. Students in the SRHPS concentration become well versed in data quality, population change and the critique and development of policies and interventions to

address demographic or sexual and reproductive health issues. CHD students should graduate with the ability to assess population needs; develop, manage, mobilize and evaluate programs to address these needs; and work with partners to improve health. PN students should develop a skillset that includes assessing individual and population level nutritional status, evaluating the factors that cause malnutrition, critiquing evidence and proposing and evaluating solutions ("Clifton Notes for MPH/MSPH Students, 2013-2014 Academic Year," 2013).

Clearly, a wide range of skills falls into the realm of Global Health at RSPH. As a result, concentrations are not only thematically different; they engage students in the development of qualitatively different public health skillsets. This sets this program apart from many others where all students who graduate from the same department will have mastered the same set of competencies.

MPH in Behavioral Sciences and Health Education (BSHE)

The BSHE Department is "dedicated to research and training that investigates the interaction of biological, behavioral, social, cultural, and historical processes as they contribute to the health and well-being of populations" ("Behavioral Sciences & Health Education (BSHE)," 2014). Students in BSHE are able to choose to focus on either behavioral sciences (BS track), health education (HE track) or to combine the two tracks. The BS track is oriented towards research, while the HE track is aimed at students who intend to work programmatically. Students may also elect to add a certificate. Specific required courses and competencies depend on which track students choose to follow but some are common to all BSHE-trained students.

BSHE students all follow a core curriculum of ten courses, a practicum and a 4-credit thesis or capstone project:

Course Number	Course Title	Credits
BIOS 500	Statistical Methods I	4
EPI 530 OR 504	Epidemiologic Methods I OR Fundamentals of Epidemiology	4 OR 2
HPM 500	Introduction to the US Health Care System	2
EH 500	Perspectives in Environmental Health	2
GH 500	Critical Issues in Global Health	2

BSHE Core

BSHE 520	Theory in Behavioral Sciences and Health Education	3
BSHE 530	Conduct of Evaluation Research	3
BSHE 532	Quantitative Research Methods	3
BSHE 540	Behavioral Research Methods	3
BSHE 579	History of Public Health	3

All BSHE students are expected to have strong communication skills, to be able to engage in community-based work, to understand and apply social and behavioral theory; and to critically discuss and analyze public health history ("Clifton Notes for MPH/MSPH Students, 2013-2014 Academic Year," 2013). All students complete a capstone or thesis and a practicum, similarly to HDGH students.

With the BS track being more research oriented, it makes sense that its associated competencies and courses focus on research-related skills. These involve research design and protocols, including evaluation research and research on social determinants of health; the dissemination of research findings to inform programming and policy; the promotion of ethical research; and the evaluation of current research and findings ("Clifton Notes for MPH/MSPH Students, 2013-2014 Academic Year," 2013). These competencies are achieved through a BS Core of two classes.

Behavioral Sciences Core

BSHE 569	Grant Writing	3
BSHE 550R	Theory-Driven Research in the Behavioral Sciences	3

Students in the HE track are expected to achieve more “hands on” competencies. These, following the programmatic focus of the track, are centered around health education and

community needs. Students should learn to assess the needs of both a community and individuals in it; to plan, implement, evaluate and coordinate health education; and to communicate information about health as well as the health needs of a group. This is expected to rely on a strong evidence base. A two-course sequence makes up the HE core.

Health Education Core

BSHE 522	Principles of Curriculum and Instruction in Health Education	3
BSHE 524	Community Needs Assessment	3

The core competencies tackled by the BSHE program are much more detailed and numerous than those in the HDGH. Aside from the required Global Health core course, it is not clear how much interdisciplinary training occurs through the courses that are required of students. Competencies do not include a focus on training students to work across sectors and fields. It is also worth noting that the BSHE program has thirty-three to thirty-five required credits, not including the thesis/ capstone requirement. This is important in understanding the difference in the number of competencies that HDGH and BSHE students are expected to master. A student must complete at least forty-two credits to graduate from RSPH, and many graduate with forty-eight or more. This means that, compared to HDGH students, BSHE students have less freedom to take elective classes to access interdisciplinary training and to strengthen other skills they feel they need.

MPH in Global Epidemiology (GLEPI)

The interdepartmental program between the Global Health and Epidemiology (EPI) Departments offers students the opportunity study both sets of competencies, to acquire a more unique skillset, designed to be interdisciplinary and applicable around the globe. The goal of the

GLEPI program is “to provide students with qualitative and quantitative research methodologies that enable graduates to contribute to global health” ("Global EPI MPH," 2014).

Housed in the Epidemiology Department, this program’s requirements are expected to draw on both the HDGH and Epidemiology Department required courses evenly. However, a GLEPI student is expected to acquire all the competencies of an EPI student but not all those of a GH student. This may be a function of the diffuse nature of global health, versus the clear definition of epidemiology, which requires a discrete skillset. Like GH students, GLEPI students are expected to understand, describe and critically assess public health problems. They must also understand and assess the factors that affect prioritization of health concerns and be able to design interventions to improve health. In the GLEPI program, there is less focus on the conduct of research from inception to application. Students receive training that emphasizes data collection, analysis, interpretation and use ("Global EPI MPH," 2014).

The courses required of GLEPI students more closely match those required of EPI students than those GH students are expected to complete:

Course Number	Course Title	Credits
BIOS 500	Statistical Methods I	4
EPI 530	Epidemiologic Methods I	4
HPM 500	Introduction to the US Health Care System	2
EH 500	Perspectives in Environmental Health	2
BSHE 500	Behavioral and Social Sciences in Public Health	2

Epidemiology Core

EPI 533	Programming in SAS	1
EPI 534	Epidemiologic Methods II	3
EPI 591U	Applications of EPI Methods Concepts	3
BIOS 591P	Statistical Methods II	3
EPI 740	Epidemiologic Modeling	3

Global Health Core

GH 501	Global Challenges and Opportunities	3

Two to three additional GH-approved methods credits and a requirement that a GLEPI thesis and practicum “involve underserved populations or low resources settings locally, domestically

or internationally" conclude the GLEPI requirements. GLEPI students do not have a thematic concentration in global health. As mentioned earlier, half of the courses that meet the HDGH criteria for an approved methods courses are non-GH courses, making it possible for students to take their additional GH methods requirements outside the HDGH, including in the Epidemiology Department.

In the absence of data on the courses that GLEPI students take inside and outside the HDGH, it is not clear how interdisciplinary their training really is. Based on the competencies and courses required, it seems that the emphasis in this program is more on acquiring a deep epidemiology skillset and having an introduction to global health issues than fully developing skills in both Departments. It should be noted that students in the GLEPI program must be accepted by both the HDGH and the Epidemiology Department. The acceptance rate after review by both Departments was 39% in 2014 and 32% in 2015, making GLEPI the RSPH program with the lowest acceptance rate (Roger Rochat, personal communication, April 12th, 2015).

MPH in Global Environmental Health (GEH)

The other interdepartmental program offered in conjunction with Global Health, the GEH program is housed in the Environmental Health Department. Its competencies draw on those from both departments. The program has a self-stated goal of "[focusing] on interactions between population, demographics, and environment; agricultural, industrial, and economic development; globalization and global commerce; and international, environmental, and health policy issues" ("MPH/MSPH Programs in Environmental Health," 2014).

Similarly to the GLEPI competencies and courses, the requirements are weighted more heavily towards the non-HDGH side. Like HDGH students, GEH students should learn about the

forces that affect global health, understand and critique priorities, communicate findings on a poster and design interventions to improve health, although the latter skill is naturally focused on environmental health interventions. Interestingly, GEH students are also expected to master one of the ID competencies around factors that influence patterns of infectious disease ("Clifton Notes for MPH/MSPH Students, 2013-2014 Academic Year," 2013). The majority of the competencies are the same as those required for students in Environmental Health.

Similarly to GLEPI students, GEH students spend more of their credits fulfilling EH requirements than they do GH requirements, with the GEH requirements being made up of the following courses:

Course Number	Course Title	Credits
BIOS 500	Statistical Methods I	4
EPI 530	Epidemiologic Methods I	4
HPM 500	Introduction to the US Health Care System	2
BSHE 500	Behavioral and Social Sciences in Public Health	2

Environmental Health Core

EH 520	Human Toxicology	3
EH 530 OR EHS747	Environmental and Occupational Epidemiology OR Advanced Environmental Epidemiology	2
EH 540	Environmental Hazards 1	2
EH 546/ GH580	Environmental Microbiology: Control of Food and Waterborne Disease	2
EH 596 OR GH555	Research Design in EH OR Proposal Development	1 OR 2

Global Health Core

GH 501	Global Challenges and Opportunities	3

In addition to these courses, GEH students must take at least six elective credits from a list that includes five GH courses, in addition to nineteen EH courses, two of which are cross-listed in the HDGH. Among the optional GH courses, the second core HDGH course (GH542: Evidence-Based Strategic Planning) is recommended as an elective. The curriculum also includes thesis and practicum requirements, which GEH students are encouraged – though not required (unlike

GLEPI students) – to complete on a global topic (Ariadne Swichtenberg, personal communication, February 16th 2015). Applicants to the GEH program are not subject to review by the HDGH, in contrast to those seeking a GLEPI degree (Roger Rochat, personal communication, March 2014).

As should be clear from these requirements and competencies, each department has a very specific skillset it intends to instill in its students. Certain departments, such as BSHE, have an extensive list of core courses, ensuring that all MPH graduates from this department leave RSPH with the same core skills and competencies. Others, such as the GH program, take a different approach, with a more flexible curriculum and fewer core competencies, and the likelihood that students are leaving with very different, individualized public health toolboxes. It is likely that, depending on student interests, some students may err on the side of building a very skills- and methods-based curriculum, while others may elect to take more content-based courses. In the case of the current cross-departmental programs, it is not clear whether the GEH and GLEPI curricula allow or encourage students to engage in as much global health as might be expected from a degree program that includes the word "Global" in its title.

Another concern that might impact the development of a new program is that of RSPH's ranking among schools of public health. These rankings are calculated, according to U.S. News and World Report (Morse & Flanigan, 2014), by surveying deans, administrators and faculty at CEPH accredited schools. Having unique program offerings and receiving a high number of applications also makes RSPH very competitive. According to the RSPH website, RSPH receives more applications than any other school of public health in the US as well as more applications to its Global Health, Environmental Health or Epidemiology Departments than any

other school (Rollins School of Public Health, 2014). The fact that RSPH's ranking dropped by one place between the last two iterations of the process suggests that satisfaction has either dropped slightly at RSPH or increased at other schools. It is useful for leaders at RSPH to consider ways to bolster RSPH's popularity and ranking.

A factor that could also influence RSPH's competitiveness is whether similarly ranked schools are already offering more innovative and interdisciplinary programs and therefore better catering to the training needs of prospective students. If no other schools provide this type of training, RSPH could be leading the field by offering even stronger interdisciplinary training than it already does. If other schools are offering such programs, it is crucial for RSPH to consider how to increase its competitiveness in relation to those schools.

Based on their US News rankings and prestige in either global health programs, social and behavioral sciences programs or both, the following schools are presumed to be those with which RSPH is most often competing against in the search for a strong, elite student body interested in marrying global health paradigms and health promotion and behavioral research:

- Johns Hopkins' Bloomberg School of Public Health
- University of North Carolina- Chapel Hill Gillings School of Global Public Health
- University of Michigan- Ann Arbor School of Public Health
- Columbia University Mailman School of Public Health
- University of Washington School of Public Health
- Harvard Chan School of Public Health
- Tulane University School of Public Health and Tropical Medicine
- Boston University School of Public Health

Understanding how these schools train students who seek an interdisciplinary education in global health and social and behavioral sciences is key since this is the perceived training gap at RSPH that the proposed GH-BSHE program aims to fill. It must be noted that this comparative review of SPH programs has limitations since it is based solely on a review of the Schools' websites and the information about competencies and programs provided therein.

Johns Hopkins Bloomberg School of Public Health (JHSPH)

The Bloomberg School of Public Health (JHSPH) is, "dedicated to providing [their] MPH students with an academic experience that encompasses flexibility, intensity, diversity and cutting edge science" ("Academic Overview," 2014). It does this through various MPH offerings, including an 80-credit full-time MPH. JHSPH's MPH program, similarly to RSPH's, requires a core set of courses, a practicum and a capstone project. None of the required courses appear to be globally focused judging by how they are presented on the JHSPH website ("Academic Overview," 2014).

Students may select a concentration among ten interdisciplinary options or elect to customize their program of study. Concentrations offered are: Child and Adolescent Health; Epidemiologic & Biostatistical Methods for Public Health; Food, Nutrition, and Health; Global Environmental Sustainability & Health; Health in Crisis and Humanitarian Assistance; Health Leadership and Management; Health Systems and Policy; Infectious Diseases; Social & Behavioral Sciences in Public Health; Women's and Reproductive Health. The Food, Nutrition, and Health, Infectious Diseases and Women's and Reproductive Health concentrations seems to match RSPH's Global

Health MPH concentrations. The Global Environmental Sustainability & Health maps well onto RSPH's GEH program.

The Social & Behavioral Sciences in Public Health (SBS) concentration most closely matches RSPH's BSHE program and trains students in behavioral theory, intervention design and implementation as well as research and evaluation methods ("MPH Concentration in Social & Behavioral Sciences in Public Health," 2014). Emphasis on selecting methods and supporting decision-making with evidence, as well as training in both research and programming aligns it with the goals of the two BSHE tracks.

JHSPH has an International Health (IH) Department through which it offers a Global Health Certificate that students may take online during their degree program ("International Health," 2015), as well as an MSPH degree in Social and Behavioral Interventions (SBI). This offers students "multidisciplinary training for researchers and public health practitioners who wish to use the social sciences in the design, implementation, and evaluation of public health programs, particularly community-based interventions" ("Academic Guide 2014-2015 Master of Science in Public Health (MSPH), Master of Health Science (MHS)," 2014). Its curriculum includes "theories of medical anthropology and sociology and qualitative and quantitative methods for developing and evaluating interventions to improve global health" (Ballena, 2014). Students pursuing this degree program must complete a comprehensive examination, a practicum component and an additional MSPH essay, similar to a thesis but without an original research requirement ("Academic Guide 2014-2015 Master of Science in Public Health (MSPH), Master of Health Science (MHS)," 2014). They learn how to understand public health problems using indicators at the international, biological and environmental levels and to understand how to apply socio-behavioral theories to programming, intervention development and research,

including evaluation ("Academic Guide 2014-2015 Master of Science in Public Health (MSPH), Master of Health Science (MHS)," 2014).

This MSPH program appears to train students in a combination of many of the competencies that RSPH aims to instill in its graduates from the HDGH and from the BSHE Department. This program does come with some heavy requirements. In addition to the JHSPH standard MPH core, students complete core and elective credits in IH and SBS, qualitative methods, research, and evaluation ("Academic Guide 2014-2015 Master of Science in Public Health (MSPH), Master of Health Science (MHS)," 2014). When considering programs with which RSPH competes for global socio-behaviorally focused students, this is one that should be kept in mind.

University of North Carolina- Chapel Hill Gillings School of Global Public Health (Gillings)

According to its website, Gillings "has infused global content and approaches across the School's courses, programs and degrees. Every student should emerge from our School with an understanding of global health issues" ("Gillings Program Search || UNC Gillings School of Global Public Health," 2014). Possibly as a result, the school does not offer a specific global health MPH. Rather, residential Gillings students may elect to pursue an in-person Graduate Certificate in Global Health (CGH) to complement the requirements from their departments (an online version is also available for students pursuing a distance program) ("Health Behavior Master of Public Health (MPH) Program || UNC Gillings School of Global Public Health," 2015). Online students may also pursue an MPH with a Global Online Track which, due to its lack of comparison with RSPH's offerings, this project will not investigate further.

The Gillings program that most closely resembles RSPH's BSHE program is the Health Behavior (HB) MPH. This program aims to train students in "social and behavioral science

theory, research, and practice through core courses, community-based fieldwork, and professional development and career support. Students use a social ecological framework to study, develop, and evaluate interventions and policies to promote health, prevent disease and injury, and reduce health disparities" ("Health Behavior Master of Public Health (MPH) Program || UNC Gillings School of Global Public Health," 2015). This program includes required courses in health and health education, program management, foundations of behavior and social science, qualitative and applied research methods, public health intervention planning and evaluation. Additionally, similarly to other schools, students complete a capstone and practicum. Students at Gillings, like at JHSPH, also complete comprehensive exams at the MPH level ("Programs || UNC Gillings School of Global Public Health," 2014).

Interestingly, one of the competencies highlighted for this program is "*collaborate in diverse, cross-cultural community and organizational settings*" ("Health Behavior Master of Public Health (MPH) Program || UNC Gillings School of Global Public Health," 2015). This implies a strong commitment to interdisciplinary training. Without personally attending UNC's courses, it is impossible to know how much this competency translates into classroom training and methods. However, students seeking interdisciplinary training are likely to notice this and be drawn to it.

Students interested in studying and working at the intersection of health, behavior and global health can elect to follow the Certificate in Global Health and/or engage in global health through elective courses or practical experience. Students in any department may also get exposure to Health Communication through the Graduate Certificate in Interdisciplinary Health Communication offered by the HB program ("Health Behavior Degrees and Certificates || UNC Gillings School of Global Public Health," 2014).

If health communication is considered a socio-behavioral part of public health, then it appears that UNC is offering training that can combine global and socio-behavioral skills in a variety of ways. A student who took a Certificate in Global Health and one in Interdisciplinary Health Communication and received an MPH in Health Behavior would, it seems, receive a very strong set of globally applicable skills in health behavior, health communication and health promotion. By combining this with the emphasis on interdisciplinary education, particularly in the HB program, UNC is likely to be attractive to students seeking integrated global and behavioral training.

University of Michigan-Ann Arbor School of Public Health (U-M SPH)

At U-M SPH, there is no global health or international health department. The school has a Department of Health Behavior and Health Education (HBHE) that offers an MPH program that "prepares individuals to function in leadership positions in the development and application of behavioral science theory and research methods to analyze and design interventions that improve population health and quality of life" ("U-M School of Public Health Health Behavior & Health Education M.P.H. Program," 2014). This program's core competencies include understanding determinants of health from the individual to the societal level, applying theories to research and practice, engaging in research and evaluation, planning, implementing and managing health programs and working with communities to improve health ("U-M School of Public Health Health Behavior & Health Education M.P.H. Program," 2014). These closely match RSPH's BSHE competencies and, similarly, do not have a specific geographical focus or explicit global perspective. However, students should learn how to "*plan, implement, and manage health education and health promotion programs across diverse settings and populations from a social-*

ecological perspective within and across settings and countries with varying levels of economic resources" ("U-M School of Public Health Health Behavior & Health Education M.P.H. Program," 2014). This emphasis on different settings and the individual to societal focus reflect a perspective that is somewhat "global" in nature, suggesting that students are getting this type of training even if it is not explicitly stated in the degree name.

Aside from this, U-M SPH emphasizes its dedication to global work, even without a dedicated global health department, which is honored through international research opportunities as well as infusing some classes with a global perspective ("U-M School of Public Health Global Opportunities," 2014).The school offers an MPH program in Global Health Epidemiology/ International Health, housed in the Epidemiology Department, which requires students to complete a practicum in a developing country, as well as take courses in "international health, epidemiologic methods, pathology, infectious and chronic disease and biostatistics" ("U-M School of Public Health Epidemiology M.P.H. Programs," 2014). This appears comparable to RSPH's GLEPI program and therefore suggests that the School recognizes the importance of interdisciplinary training.

U-M SPH students appear to have access to a training that matches RSPH's BSHE program: socio-behavioral competencies with a dose of training in global health. It seems that for a student wanting a strong foundation in health behavior and health education with an awareness of global issues, this program would be attractive in a similar way to RSPH's. For students wanting a more balanced global-behavioral/educational program, this would not be as much of a draw as RSPH's current options and even less so if RSPH were to offer a more clearly interdisciplinary program.

Columbia University Mailman School of Public Health (Columbia)

Columbia's Mailman School of Public Health offers a unique MPH program, the "Columbia MPH", a degree described as "Interdisciplinary. Integrated. Collaborative" ("Columbia MPH," 2015). All students are exposed to the basic five areas of public health required for CEPH accreditation through interdisciplinary core courses, in line with this program's emphasis on interdisciplinary collaboration, as discussed earlier (CEPH, 2011). They also receive core instruction in program planning and evidence-gathering for program planning ("The Core," 2015).

Because the interdisciplinary paradigm is infused across the departments by design (Begg et al., 2013), it is not as clear what the Columbia equivalent to RSPH's GH and BSHE degrees are. In light of its social science methodology and theoretical approach, the Sociomedical Sciences (SMS) Department seems to be the closest Columbia comes to proposing a degree program similar to the RSPH BSHE degree. This program has competencies in: theoretical foundations; socio-contextual determinants of health; individual versus societal health issues; analysis of public health issues from varied perspectives; collecting, assessing, using, interpreting and communicating data; developing evidence-based interventions; and promoting ethical health interventions ("Sociomedical Sciences. MPH Program. Competencies," 2015). Students take courses that match many of the requirements for RSPH's BSHE degree, including qualitative and quantitative methods and behavioral theories ("Sociomedical Sciences. Academic Programs. MPH. Curriculum/ Degree Requirements," 2015). Like those completing MPHs at other schools, students also complete a practicum and thesis requirement.

As part of the Columbia MPH, students must also select another area of concentration in the form of a certificate, on which they spend time during the second year of their program. SMS

students are eligible to apply to most of these certificates, including Health Promotion Research and Practice, or the Global Health (GH) Certificate ("Certificates," 2015). Students are required to select the GH Certificate upon application to Columbia's MPH program and may not enroll in this program later. It also involves a mandatory 6-month practical component, carried out overseas ("Global Health," 2015). The competencies of the GH Certificate are similar to several HDGH competencies. They include effective communication to various stakeholders and developing population-appropriate evidence-based policies and programs. Students are also expected to be able to assess power dynamics when communicating findings, something not articulated within RSPH competencies ("Global Health," 2015). Students also take electives to focus on thematic interests ("Certificate Requirements," 2015).

This program seems to have a system for offering strong behavioral/health education skills combined with global health training. A few caveats definitely exist, not least of which is the fact that students must select the Global Health Certificate prior to entering Columbia and cannot opt in later. Students with prior international experience are also prioritized for this certificate program and it is very competitive. It also requires a very strong commitment to working outside the US ("Certificates," 2015), which may not reflect all global health-inclined students. Columbia's approach to training future public health professionals combines a strong core with additional discipline-specific and certificate components that build on the core to produce an interdisciplinary whole. Columbia's program seems to offer an interdisciplinary approach that enables students to engage with both global health and behavioral sciences. This approach is in line with that sought by the GH-BSHE proposal being assessed in this thesis project.

University of Washington School of Public Health (UW)

The University of Washington offers a Community-Oriented Public Health Practice MPH outside their global health department, which “trains students to be effective problem-solvers, innovators, advocates, and leaders in addressing community health problems” ("MPH in Community-Oriented Public Health Practice | UW School of Public Health," 2014). The course competencies specific to this program are focused on community-based work and practice, rather than research and do not seem comparable to RSPH’s degree options, based on what is explained on the UW website ("MPH in Community-Oriented Public Health Practice | UW School of Public Health," 2014).

UW also offers an MPH in Global Health with a general track that can be customized to focus in on program design, health education or evaluation. During this degree program, students receive a core curriculum of global health courses, beyond which they are encouraged to explore courses outside the Department ("General Track | University of Washington - Department of Global Health," 2014). It is not clear what the competencies of this program are so it cannot be effectively compared to those offered at RSPH.

Students across the UW graduate campus may also apply to pursue a Graduate Certificate in Global Health, consisting of fifteen general GH credits, a specialized course and a final capstone project ("Graduate Certificate in Global Health | University of Washington - Department of Global Health," 2014). The Department of Global Health also offers certificates in HIV and STIs, Global Injury and Violence Prevention and Global Health of Women, Adolescents, and Children ("Certificates and Fellowships | University of Washington - Department of Global Health," 2014). These certificates offer thematic training that may correspond somewhat to the training provided by the thematic concentrations of the HDGH at RSPH.

The structure of the degree offerings at UW seems to lack a BSHE-type option. However, the standalone MPH program in Global Health, with its generic community-oriented track, may be comparable to the CHD concentration offered in the HDGH. Because of the lack of BSHE-type program, this School does not appear to offer a program that would be attractive to those wishing to receive training in a combination of global and health behavior/ health education skills.

Harvard T.H. Chan School of Public Health

At the Harvard T.H. Chan School of Public Health, students wishing to pursue an MPH degree must already have a doctoral degree or a master's degree with three years of relevant experience. Students with no advanced degree are eligible to apply for the Master of Science (SM) degree or for the Doctor of Public Health (DrPH) degree from the School of Public Health. The Master of Science degree is focused on research. The School's Department of Global Health and Population has an SM option.

Tulane University School of Public Health and Tropical Medicine (Tulane SPHTM)

Tulane SPHTM is the U.S.'s oldest school of public health, the only school in the U.S. to teach both public health and tropical medicine and was accredited in 1947 ("Tulane University - About | Global Health Initiatives | Global Health Program | What Is Global Health,"). Tulane SPHTM has six departments, three of which offer "global" curricula: Global Community Health and Behavioral Science (GCHB), Global Environmental Health Sciences and Global Health Systems and Development ("Tulane University - Departments - Academics -School of Public Health and Tropical Medicine,"). The Department of GCHB is taken to be that closest to RSPH's

BSHE Department and HDGH. Its mission is “[dedication] to the promotion of optimal health and preparing the next generation of public health professionals through teaching, research, and partnering with communities globally. Our goal is to apply lessons learned from domestic and international programs and research, seeking better ways to develop, deliver, and evaluate public health initiatives at the community level,” ("Global Community Health and Behavioral Sciences: Overview," 2011) reflecting similar values to both the HDGH and the BSHE Department at RSPH. The GCHB MPH degree program whose skills, competencies and curriculum most closely match a Global-BSHE degree is Health Education & Communication ("Global Community Health and Behavioral Sciences: Overview," 2011).

This degree focuses on “health communication, community organization and development, health education, health advocacy and evaluation of public health campaigns” ("MPH in Health Education and Communication," 2011). It enables students to build skills in analyzing health problems using behavioral theories and planning, implementing, coordinating and evaluating health education and communication programs across a variety of settings ("Tulane University - MPH in Health Education and Communication,"). The explicit competencies match very well with those of RSPH’s BSHE program, particularly the HE track.

Tulane SPHTM also offers a program similar to the HDGH’s CHD concentration, which is customizable and therefore may lead to a more specific student-dictated set of skills ("Tulane University - Master of Public Health (MPH) in Community Health Sciences,"). From these degree options, Tulane appears to offer interdisciplinary training in both health behavior/health education and global health. Since Tulane does not rank as highly as the other schools that were investigated, it is not clear if it will be competing for the same students. However, students

looking for a program that explicitly focuses on global health education are likely to find this program attractive.

Boston University School of Public Health (BU)

At BU are trained "to improve the health of local, national, and international populations—particularly the disadvantaged, underserved, and vulnerable—through excellence and innovation in education, research, and service" ("Master of Public Health (MPH) | SPH | Boston University," 2015). Students can pursue MPH degrees in eight different concentrations, including Global Health and Social & Behavioral Sciences. All students receive training that prepares them "*to work in a wide array of settings and understand the interplay of the biological, social, economic, cultural, political, behavioral, and environmental factors that affect health*" ("Master of Public Health (MPH) | SPH | Boston University," 2015).

The MPH in Global Health teaches skills in managing programs and budgets during the development and implementation of health programs; in systems analysis to understand health financing and health services delivery; and in the use of multidisciplinary models to promote social change as a prerequisite for the improvement of health ("Global Health | SPH | Boston University," 2015). Students may develop a general set of skills applicable across thematic interests, or to select an area of emphasis in Health Program Management, Infectious & Noncommunicable Diseases, Managing Disasters & Complex Humanitarian Emergencies, Monitoring & Evaluation and Research Methods, and Sex, Sexuality, Gender & Health. These emphasis areas are somewhat similar to the concentrations offered by RSPH in the HDGH and they each have specific competencies and required courses ("Global Health | SPH | Boston University," 2015).

Students seeking an MPH in Social & Behavioral Sciences focus on "*identifying and analyzing the social determinants and behavioral risk factors that are associated with public health problems, and using this knowledge to understand and promote healthy behavior within communities*" ("Social & Behavioral Sciences | SPH | Boston University," 2015). They learn about the development, implementation and management of public health programs, while understanding the socio-behavioral causes of public health problems. Competencies focus around using data to understand health problems; using socio-behavioral theories, quantitative and qualitative research methods to develop interventions; evaluating interventions; and communicating and advocating findings to promote evidence-based public health. Students, like those concentrating in Global Health, can hone in on a specific area of interest in Health Disparities, Health Communication and Intervention Planning ("Social & Behavioral Sciences | SPH | Boston University," 2015). This program seems to be covering competencies, skills and topics that align very well with those of RSPH's BSHE degrees. It has the same emphasis on behavioral theory, research methods and evaluation. The ability to add in a further focus on health communication and program planning make it more customizable than the BSHE program and somewhat similar to the HDGH programs.

The BU degree, while not offering a degree that would be interdisciplinary like a Global-BSHE degree, has certain advantages over degrees offered at RSPH. All degrees appear to provide students with the option of adding a methodological or thematic focus, something not all RSPH departments offer. Aside from this, the program options seem to align well with the degrees currently offered by RSPH.

From this overview of both RSPH's degree programs and other potentially competing programs, it is clear that students seeking interdisciplinary training in both global health and socio-behavioral sciences and health education have a limited range of options. With this in mind, it is important to understand how faculty, students and alumni of RSPH assess the training RSPH is currently offering this group of students. For RSPH to be as attractive as possible to students seeking training in global socio-behavioral sciences and health education, it is crucial to understand the perception of those who know the degree options at RSPH best and to learn from their suggestions for how the training RSPH offers these students can be improved.

III- Methodology

The following section details the study sample and population, sampling methods, data collection tools and data analysis methods.

Study sample and population

The population sampled for this study was intended to provide perspectives on the value of and potential barriers to the development of the proposed academic program. As such, faculty, alumni and students were identified as key stakeholders in this process.

Participants in this study were drawn from several different populations:

- current second year GH students
- current second year BSHE students
- faculty appointed either in the HDGH and/or in the BSHE Department
- ADAPs in either the HDGH or the BSHE Department
- Department Chairs for the HDGH and BSHE Department
- alumni from the HDGH and the BSHE Department.

Quantitative Sample

All second year students from the HDGH (N=95) and BSHE Department (N=81) were contacted by email by an HDGH ADAP and sent a link for a quantitative survey designed for current students.

Alumni from 1977 to 2014 from the HDGH and the BSHE Department (N=1848) were contacted by email by the Director of Alumni & Constituent Relations and sent a link for a quantitative survey designed for alumni.

Qualitative Sample

Student and alumni participants for in-depth interviews were purposively sampled based on their known academic and professional interests in both behavioral sciences/ health education and global health. Additionally, both quantitative surveys included a call for participants to contact the researcher if interested in participating in an in-depth interview or focus group discussion. Snowball sampling was also used by asking interviewees to identify other potential participants.

Faculty participants were identified by the thesis committee as those having previous or current work with transnational or international populations in the socio-behavioral and health education fields.

One ADAP from each department was contacted to participate as was the Chair of each department.

Instruments

Quantitative Survey

A short original 9-question online survey was developed to capture student attitudes towards the degrees they were seeking, their interest in and support for the development of a Global BSHE degree and their opinions about the structure of such a degree. Questions inquired about students' current degree program; the area of public health they intended to work in after receiving their MPH; whether they intended to work with non-domestic populations and how well they felt their current degree was preparing them for their planned career. They were also asked how attractive a Global-BSHE degree would have been if available when they applied to RSPH and whether they would have pursued such a degree instead of their current degree track.

Lastly, they were asked about the skills they would want a Global-BSHE degree to prioritize and whether they thought this degree program should be offered. An option for additional comments was included.

The alumni survey included similar questions, with the addition of two questions about their current and future public health work. In total, this survey included 11 questions.

Both surveys were administered online, anonymously, through Survey Gizmo. Each was estimated to take respondents 2 minutes or less to complete.

Qualitative Interviews

Interview guides were developed for students, alumni, faculty, ADAPs and Department Chairs. All guides asked participants about the skills they thought were acquired through the BSHE or GH degrees, the core skills RSPH taught its students, their experience and interests in public health, their interest in the development of a Global-BSHE program and their opinions about what such a degree should include.

Students and alumni were asked how they had chosen RSPH for their MPH degrees and, if they recalled, why they had chosen either a degree in GH or in BSHE. Additionally, students were asked about their perceptions of how well their current degree was preparing them for their intended future career, and how the two departments could better intersect to improve their training. Alumni were asked how well their degrees had prepared them for their current work and what skills they wished they had acquired as part of their MPH.

All faculty participants were also asked how they guided students who had interests that straddled the HDGH and BSHE Departments, what barriers they perceived to the development of a Global-BSHE program and their perception of the effect of offering such an interdepartmental

program on the competitiveness of RSPH as a school. HDGH-affiliated faculty were asked about their perception of the GLEPI and GEH programs as models for interdepartmental programs, as well as their experience working with BSHE students and their perception of the key GH skills they would want all GH-affiliated students to have upon graduation. BSHE faculty were asked about their experience working with GH students and the core BSHE skills they would want for all BSHE-affiliated students.

Prior to data collection, all portions of the study were submitted to Emory University's Institutional Review Board and determined to meet the criteria for exemption. The survey was fielded online from September to November of 2014. Interviews were carried out and recorded by the researcher, trained by Emory University faculty, from September to December 2014 and subsequently transcribed and deidentified. All interview participants signed informed consent forms informing them of the potential for identification of their comments and offered the option of reviewing any quotes used in the final project write-up.

Data entry, cleaning and analysis

Transcribed interviews were imported into MAXQDA 11 (VERBI Software, 1998-2015) for thematic analysis. A codebook was developed inductively and deductively to identify key themes emerging from the interviews and representing key areas of interest: previous public health experience and public health goals; experience at the intersection of GH and BSHE; perspectives on GEH and GLEPI programs; opinions on the competencies taught by the HDGH and the BSHE Department as well as the competencies that should be prioritized for a joint program; how interviewees viewed RSPH compared to other schools of public health; interviewees' satisfaction with the degree offerings at RSPH; and their attitudes towards the development of a

GH-BSHE degree and its structure. All interviews were coded using the codebook and analyzed to represent different stakeholders' attitudes towards the currently offered degree programs and the value and design of a potential Global-BSHE program.

All survey responses were collected online through Survey Gizmo and downloaded from the website. The data was cleaned and variables renamed in Microsoft Excel. Quantitative responses were imported into SAS 9.3 (Cary, NC) for analysis. The level of support for a Global-BSHE degree was analyzed by degree obtained, type of public health work respondents engage in and populations they intend to work with, using frequency analyses. The frequency of types of skills suggested for prioritization was also tabulated. Qualitative comments were imported into MAXQDA where they were thematically coded and analyzed using descriptive and comparative approaches.

IV- Results

Survey Demographics

The student survey received a response rate of 60.2% (n=106), while 303 alumni completed the alumni survey (response rate= 16.4%). The breakdown of departmental affiliations among respondents, as shown in Tables 1 and 2, indicates that BSHE students and alumni made up more than half of the sample and each track in each department was represented by both students and alumni.

Table 1- Frequency distribution of departmental associations among GH and BSHE students (n=116)

Departmental Association	Frequency	Percentage (%)
BSHE	**59**	**50.9**
BS	18	15.5
HE	23	19.8
BS/ HE	18	15.5
Global Health	**53**	**45.7**
CHD	22	19.0
ID	16	13.8
PN	4	3.5
SRH	11	9.5
Other	**4**	**3.5**
Total	**116**	**100**

Table 2- Frequency distribution of departmental associations among GH and BSHE alumni (n=313)

Departmental Association	Frequency	Percentage (%)
BSHE	**187**	**59.7**
BS	72	23.0
HE	82	26.2
BS/ HE	33	10.5
Global Health	**108**	**34.5**
CHD	37	11.8
ID	32	10.2
PN	13	4.2
SRH	26	8.3
Other	**18**	**5.8**
Total	**313**	**100**

Survey Results

The survey asked students to identify what type of future public health work they hoped to be involved in. The most commonly selected activity was monitoring and evaluation, with 50% of respondents choosing this as one of their options. 44% plan on engaging in health education with over half of those coming from the BSHE Department, although 37.7% of HDGH respondents also intend to work in this field. The third most common field of work was behavioral work with 32.6% of students selecting this option. 64 students (54.7%) indicated that they intended to

engage in global work in the future, with 28.8% of BSHE and 83% of HDGH respondents selecting this preference. Only 13.7% (n=16) answered that they did not intend to work globally. Table 3 presents more detailed information by departmental affiliation.

Table 3- Frequency distribution of desired future employment field and geographic location among GH and BSHE students (n=116)

Professional Interest	Departmental Association			
	BSHE (%)	GH (%)	Other (%)[0]	Total (%)
Behavioral Work	26 (44.1)	12 (22.6)	-	38 (32.6)
Data Management/ Analysis	15 (25.4)	10 (18.9)	1 (25.0)	26 (22.4)
Epidemiology	3 (5.1)	4 (7.5)	1 (25.0)	8 (6.9)
Health Education	31 (52.5)	20 (37.7)	-	51 (44.0)
Monitoring and Evaluation	31 (52.5)	27 (50.9)	-	58 (50.0)
Other*	10 (16.9)	15 (28.3)	4 (100.0)	29 (25.0)
Future Global Work				
Yes	17 (28.8)	44 (83.0)	3 (60.0)	64 (54.7)
No	16 (27.1)	-	-	16 (13.7)
Unsure	26 (44.1)	9 (17.0)	2 (40.0)	37 (31.6)

[0]*Including 1 respondent who did not identify a degree program*

**The most common interests of students who responded that they anticipated engaging in "other" aspects of public health were: clinical practice, including as physician's assistants and nurse practitioners (n=7); emergency response (n=3); child nutrition (n=2); community-based work (n=3), and health communication (n=2).*

Alumni were similarly asked about their current responsibilities, as well as intended future employment in terms of their preferred field of work and geographic focus. Research (53.1%), program development (41.8%), monitoring and evaluation (38.9%) and data management and analysis (37.6%) are the most common current fields of employment. 35.0% indicated they engaged in "other" fields. Table 4 provides more detail about alumni's interests by departmental affiliation.

Table 4- Frequency distribution of current employment field and geographic location among GH and BSHE alumni (n= 311)

Current Field	Departmental Association			
	BSHE (%)	GH (%)	Other (%)	Total (%)
Behavioral Work	42 (22.5)	22 (20.4)	6 (33.3)	70 (22.5)
Data Management/ Analysis	61 (32.6)	48 (44.4)	8 (44.4)	117 (37.6)
Epidemiology	28 (15.0)	18 (16.7)	8 (44.4)	54 (17.4)
Health Education	76 (40.6)	19 (17.6)	4 (22.2)	99 (31.8)
Monitoring and Evaluation	68 (36.4)	44 (40.8)	9 (50.0)	121 (38.9)
Program Development	78 (41.7)	44 (40.8)	8 (44.4)	130 (41.8)
Research	99 (52.9)	57 (52.8)	9 (50.0)	165 (53.1)
Other*	62 (33.2)	42 (38.9)	5 (27.8)	109 (35.0)
Currently Geographic Area				
Global	23 (12.3)	39 (36.5)	5 (29.4)	67 (21.5)
Domestic	137 (73.3)	42 (39.3)	7 (41.2)	186 (59.8)
Both	27 (14.4)	26 (24.3)	5 (29.4)	58 (18.7)

**The most common activities of alumni who responded that they currently engage in "other" aspects of public health were: clinical practice (n=18), including surgery, clinical nutrition, physical therapy, veterinary medicine and currently in a medical training program; policy and advocacy (n=13); health communication (n=12); management (n=6); consulting (n=5); law (n=4); and community-based work (n=3). 6 alumni responded that they were either not currently employed or not employed in public health.*

In addition to asking alumni about their current employment situation, the survey asked them about their desired future public health employment. These responses were similar to current employment responses although health education replaced data management/ analysis as the fourth most common response. Overall, 50.6% want to be involved in global work in the future, with an additional 33.0% of respondents being unsure about this question. Only 18.7% of BSHE and 10.2% of HDGH alumni do not desire future employment in the global sphere. Table 5 presents these responses in more detail by departmental affiliation.

Table 5- Frequency distribution of desired future employment field and geographic location among GH and BSHE alumni (n= 312)

Current Field	Departmental Association			
	BSHE (%)	GH (%)	Other (%)	Total (%)
Behavioral Work	55 (29.4)	24 (22.2)	2 (11.1)	81 (26.0)
Data Management/ Analysis	33 (17.6)	30 (16.0)	2 (11.1)	65 (20.8)
Epidemiology	16 (8.6)	24 (22.2)	3 (16.7)	43 (13.8)
Health Education	66 (35.3)	21 (19.4)	2 (11.1)	89 (28.5)
Monitoring and Evaluation	57 (30.5)	48 (44.4)	3 (16.7)	108 (34.6)
Program Development	97 (51.9)	59 (54.6)	5 (27.8)	161 (51.6)
Research	70 (37.4)	48 (44.4)	4 (22.2)	122 (39.1)
Other	31 (16.6)	16 (14.8)	4 (22.2)	51 (16.3)
Future Global Work?				
Yes	84 (44.9)	64 (59.3)	10 (58.8)	158 (50.6)
No	35 (18.7)	11 (10.2)	5 (29.4)	51 (16.4)
Unsure	68 (36.4)	33 (30.6)	2 (11.8)	103 (33.0)

Student and alumni responses indicate that there is no single profile that describes a BSHE or an HDGH graduate. Graduates from both programs work across a range of public health disciplines and it is not the case that only HDGH students work globally or that those from BSHE are purely domestically focused. This data suggests that, to ensure that students are well prepared for the work they will be engaged in after graduation, it is important not to silo training. Students in both departments end up engaging in some degree of work with non-domestic populations, in some health education, in research, programming and monitoring and evaluation and should be trained as such.

Current students and alumni were asked how well they felt their RSPH degrees were preparing or had prepared them for the work they want to engage in. Tables 6 and 7 present their responses.

Table 6- Frequency distribution of RSPH degree's perceived preparation for employment among GH and BSHE students (n= 105)

Perception of Preparation	Departmental Association			Total (%)
	BSHE (%)	GH (%)	Other (%)[0]	
Very well	24 (48.0)	10 (19.6)	-	34 (32.4)
Fairly well	23 (46.0)	30 (58.8)	3 (75.0)	56 (53.3)
Unsure	1 (2.0)	5 (9.8)	1 (25.0)	7 (7.7)
Not very well	1 (2.0)	6 (11.7)	-	7 (7.7)
Not at all well	1 (2.0)	-	-	1 (1.0)

Table 7- Frequency distribution of RSPH degree's perceived preparation for employment among GH and BSHE alumni (n= 312)

Perception of Preparation	Departmental Association			Total (%)
	BSHE (%)	GH (%)	Other (%)*	
Very well	80 (46.0)	33 (32.7)	9 (56.3)	122 (41.9)
Fairly well	85 (48.9)	54 (53.5)	7 (43.8)	146 (50.2)
Unsure	8 (4.6)	11 (10.9)	-	19 (6.5)
Not very well	1 (0.6)	3 (3.0)	-	4 (1.4)
Not at all well	-	-	-	0 (0.0)

Satisfaction among respondents was defined as reporting feeling "very well" or "fairly well" prepared by their RSPH degrees. Dissatisfaction was defined as feeling that the RSPH degree prepared the respondent "not very well" or "not at all well" for their career.

Among current students, 94% of BSHE respondents (n=47) felt satisfied with their degrees, compared to 78.4% of HDGH respondents (n=40). Additionally, 11.7% of HDGH respondents (n=6) were dissatisfied, compared to 2 students (4.0%) from the BSHE Department. Overall, 85.7% of respondents felt satisfied by their degrees. The numbers among alumni were similar, with an overall satisfaction rate of 92.1%, and one of 95% among BSHE respondents and 86.2% for the HDGH. Only 4 respondents (1.4%) were dissatisfied.

Overall, this indicates that both departments are preparing their students well for the careers they want to pursue and do pursue after graduation. However, this satisfaction is not evenly distributed between the two departments, with BSHE students and alumni reporting feeling better prepared than those from the HDGH.

The survey also sought to understand the effect of offering a GH-BSHE degree on the appeal of RSPH as a school, in addition to the appeal of the degree itself. Students and alumni were asked whether offering this degree would have affected their perception of the attractiveness of RSPH when they were applying, as well as whether they would have considered pursuing a degree in GH-BSHE rather than the degree they had chosen. Tables 8 and 9 present their responses to each of the two questions, by departmental affiliation.

Table 8- Frequency distribution of perceived attractiveness of RSPH if a GH-BSHE degree were offered and preference for GH-BSHE degree vs actual degree among GH and BSHE students by department (n=106)

	Departmental Association			Total (%)
	BSHE (%)	GH (%)	Other (%)[0]	
RSPH attractiveness if GH-BSHE were available				
Much more	13 (25.5)	8 (15.7)	-	21 (19.9)
More	10 (19.6)	9 (17.7)	1 (25.0)	20 (18.9)
Equally	26 (50.9)	30 (58.8)	3 (75.0)	59 (55.7)
Less	1 (2.0)	-	-	1 (0.9)
Much less	-	-	-	-
Unsure	1 (2.0)	4 (7.8)	-	5 (4.7)
Preference for GH-BSHE over current degree				
Would have applied for GH-BSHE	17 (33.3)	15 (29.4)	-	32 (30.2)
Would have applied for current degree	20 (39.2)	22 (43.1)	2 (50.0)	44 (41.5)
Would have considered GH-BSHE but unsure about preference	14 (27.5)	14 (27.5)	2 (50.0)	30 (41.5)

Table 9- Frequency distribution of perceived attractiveness of RSPH if a GH-BSHE degree were offered and preference for GH-BSHE degree vs actual degree among GH and BSHE alumni by department(n=300)

	Departmental Association			Total (%)
	BSHE (%)	GH (%)	Other (%)*	
RSPH attractiveness if GH-BSHE were available				
Much more	33 (18.2)	7 (6.7)	0 (0.0)	40 (13.3)
More	41 (22.7)	27 (26.0)	2 (13.3)	70 (23.3)
Equally	95 (52.49)	56 (53.9)	11 (73.3)	162 (54.0)
Less	5 (2.8)	5 (4.8)	0 (0.0)	10 (3.3)
Much less	2 (1.1)	0 (0.0)	1 (6.7)	3 (1.0)
Unsure	5 (2.8)	9 (8.7)	1 (6.7)	15 (5.0)
Preference for GH-BSHE over current degree				
Would have applied for GH-BSHE	50 (27.6)	14 (13.5)	1 (6.7)	65 (21.7)
Would have applied for current degree	77 (42.5)	50 (48.1)	9 (60.0)	136 (45.3)
Would have considered GH-BSHE but unsure about preference	54 (29.8)	40 (38.5)	5 (33.3)	99 (33.0)

38.8% of students (n=41) and 36.6% of alumni (n=110) said they would have found RSPH either "much more" or "more" attractive if it offered this degree. 55.7% of students (n=59) and 54.0% of alumni (n=162) responded that offering a GH-BSHE degree would not have affected their perception of RSPH. 4.7% of students and 5.0% of alumni were unsure.

Among students and alumni, those from the BSHE Department were more likely to find RSPH more attractive if it offered a GH-BSHE degree (45.1% and 40.9%) than those from the HDGH (33.4% and 32.7%). Over 50% of each group responded that they would find the School "equally attractive". Interestingly, one BSHE student and 4.3% of alumni (n=13) said they would have found RSPH "less" or "much less" attractive if it offered this degree option. The open-ended responses to this survey did not provide any further insight into how RSPH's attractiveness would decrease if a GH-BSHE degree were offered. Although the respondents to this survey were those who had already found RSPH more attractive than other schools, this may

offer insight into the appeal of additional interdisciplinary degree offerings to prospective students.

Had a GH-BSHE degree been offered, 30.2% of student respondents (n=32) and 21.7% of alumni respondents (n=65) claimed they would have applied for that degree instead of the one they had chosen. 41.5% of students (n=44) and 45.3% of alumni (n=136) would have pursued the same degree. The remainder would have considered a GH-BSHE degree but were unsure whether they would have chosen it.

BSHE students were the group most likely to say they would have chosen a GH-BSHE degree (33.3%, n=17). HDGH alumni were least likely to have chosen this degree (29.4%, n=15). Both surveys asked directly about individual support for the development of a GH-BSHE program. Only 12.4% of students (n=13) and 18.3% of alumni (n=54) responded that they were opposed to this program development. Support was higher among students (67.5%, n=71) than among alumni (57.3%, n=169). GH students had the highest proportion of individuals who supported the development of the degree (70.6%, n=36) and BSHE alumni the lowest (55.4%, n=98). Of those who gave an "other" departmental affiliation, 75% of students (n=3) and 62.5% of alumni (n=10) were supportive, while 6 alumni (37.5%) were opposed. Additional comments on surveys indicated that some of those opposed or unsure might be more supportive if they knew more about this potential program's curriculum.

Tables 10 and 11 present responses for students and alumni by department. Table 12 summarizes the aggregate statistics for alumni and students for easier comparison.

Table 10- Frequency distribution of support for GH-BSHE degree program development among GH and BSHE students by department (n=105)

Support for GH-BSHE	Departmental Association			Total (%)
	BSHE (%)	GH (%)	Other (%)[0]	
Yes	32 (64.0)	36 (70.6)	3 (75.0)	71 (67.6)
No	7 (14.0)	6 (11.8)	-	13 (12.4)
Unsure	11 (22.0)	9 (17.7)	1 (25.0)	21 (20.0)

Table 11- Frequency distribution of support for GH-BSHE degree program development among GH and BSHE alumni by department (n=295)

Support for GH-BSHE	Departmental Association			Total (%)
	BSHE (%)	GH (%)	Other (%)*	
Yes	98 (55.4)	61 (59.8)	10 (62.5)	169 (57.3)
No	35 (19.8)	19 (18.6)	6 (37.5)	54 (18.3)
Unsure	44 (24.9)	22 (21.6)	0 (0.0)	72 (24.41)

Table 12- Frequency distribution of support for GH-BSHE degree program development among GH and BSHE students and alumni by academic status (n=400)

Support for GH-BSHE	Academic Status	
	Students (%)	Alumni (%)
Yes	71 (67.6)	169 (57.3)
No	13 (12.4)	54 (18.3)
Unsure	21 (20.0)	72 (24.41)

These data indicate at least moderate support for the development of a GH-BSHE degree and little opposition. Based on open-ended responses to survey questions some of the uncertainty appears to be due to the fact that this survey was exploratory and therefore did not provide a proposed curriculum or competencies for the program.

Lastly, alumni and students were asked what skills they would want to have prioritized during the development of a GH-BSHE curriculum if such a degree were developed. By combining similar write-in responses, a list of the most common suggested skills was compiled in Table 12.

Table 12- Frequency distribution of Global Health, Behavioral Sciences and Health Education skills perceived as important to prioritize by GH and BSHE alumni and students for the development of a GH-BSHE curriculum (n=250)

Skill[0]	Alumni (n=187) Frequency (%)	Student (n=63) Frequency (%)	Total (%)
Cultural competence*	54 (28.9)	29 (46.0)	83 (33.2)
Monitoring/ Evaluation	44 (23.5)	10 (15.9)	54 (21.6)
Program/ Intervention planning/ design	33 (17.6)	15 (23.8)	48 (19.2)
BSHE curriculum with global application	32 (17.1)	10 (15.9)	42 (19.0)
Health education/ curriculum	24 (12.8)	17 (27.0)	41 (16.4)
Needs assessment	26 (13.9)	11 (17.5)	37 (14.8)
Quantitative methods**	25 (13.4)	5 (7.9)	30 (12.0)
Behavioral studies+	18 (9.6)	10 (15.9)	28 (11.2)
Health communication***	20 (10.7)	5 (7.9)	25 (10.0)
Qualitative methods	18 (9.6)	7 (11.1)	25 (10.0)
Research methods/ design	13 (7.0)	-	13 (5.2)
Behavior change/ structural barriers	13 (7.0)	6 (9.5)	19 (7.6)
Working with limited resources++	13 (7.0)	5 (7.9)	18 (7.2)
Epidemiology	11 (5.9)	-	11 (4.4)

[0]Results for skills mentioned by over 5% of respondents. An additional 50 individual skills and courses were mentioned in responses.
** Includes cultural sensitivity, cultural awareness, cultural competency, cultural influences, cross-cultural communication, cultural specificity, cultural humility, cultural appropriateness, cultural norms/ beliefs, cultural relevance*
*** Includes biostatistics, data analysis, statistics*
**** Includes behavior change communication and health messaging*
+ Includes behavioral sciences, behavioral theories
++ Includes application in low-resource settings, modification for low-resource settings, programming in resource-poor settings

The most commonly recommended skill, with 33.2% of responses (n=83), was cultural competence*. Many also recommended prioritizing monitoring and evaluation (21.6%, n=54) and program planning and design (19.2%, n=48). 19.0% of respondents (n=42) suggested using the current BSHE curriculum and adding skills for global application, a cultural slant or a focus on cultural competence would be ideal. Most of the other responses focused on research-type skills, including needs assessment, quantitative and qualitative methods and research methods. Health communication, a skill not widely taught at RSPH, was a surprisingly common response.

Whether a new degree is developed or not, it is useful to know which classes have been most valuable to alumni, as well as what skills gaps may exist in the programs that are currently

offered by RSPH. This data, with a number of respondents referring to "the BSHE skillset", also shows that the BSHE program is seen as a holistic skillset and that there is a strong need to train students across both departments in qualitative as well as quantitative methods.

Interview Demographics

Qualitative interview participants included students, alumni, faculty (including a department chair) and staff (including one administrator, also referred to as "faculty" to ensure confidentiality of her comments). Table 13 presents their departmental affiliations.

Table 13- Frequency distribution of departmental associations among interview participants (n=22)

Departmental Association	Faculty/ administrators	Students	Alumni	Total
BSHE	2	5	1	8
GH	7*	2	4	13
GLEPI	-	1	-	1
Total	9	8	5	22

**Including two jointly appointed with BSHE.*

To ensure confidentiality, only general information about faculty interviewees will be given. Some have a strong research focus while several engage in significant applied research or program implementation or have more of a policy slant to their work. Work in behavior and social change is being done both by faculty in the HDGH and in the BSHE Department. Faculty work involves vulnerable groups, such as refugees, immigrants (specifically Latinos), minorities, adolescents and substance abusers.

Students and alumni had equally diverse experiences in public health. Current and former students came to public health from education, marketing, environmental work, journalism and international work. Six were returned Peace Corps Volunteers (RPCVs). Two alumni are pursuing PhDs and one student plans to do the same. Alumni have worked in chronic disease

prevention, social marketing, emergency response, health education and environmental health. Students plan to engage in research (behavioral, clinical trials and evaluation), community needs assessment, monitoring and evaluation, curriculum development and programming. They want to serve marginalized and underserved populations, including sex workers and the LGBTQ (lesbian, gay, bisexual, transgender and queer) community, and investigate health disparities. They want to work in the public and private sectors and with community-based organizations. Students and alumni, aside from two BSHE interviewees, from both Departments expressed interest in working outside the US borders.

Faculty, students and alumni have thematic interests that cover the spectrum of public health topics, including HIV/AIDS (research, prevention, treatment, counseling or program development), sexual and reproductive health (SRH), mental health, and nutrition.

Faculty comments about what former students had done after graduation were in line with student plans. MPH graduates from the HDGH and BSHE Department can be found working in NGOs, INGOs (international non-governmental organizations), at CDC, in local health departments, in US governmental positions outside the US, in academia and in clinical positions. The views of several faculty members and more than one student, were summed up by one interviewee:

> *The dream job for every Global Health graduating student […] is a domestically based position with some percentage of travel, depending on where they are in their lives. It could be like 60% travel, and for others maybe 30% travel or something like that. There's kind of like "straight out your MPH, don't have any life responsibilities but also don't want to totally go native."* (GH-04-Faculty)

Students, faculty and alumni agreed that graduates from both departments were engaged locally, domestically and globally. More students may remain in the US than originally intended to, partially due to the shift away from hiring experts from the US to run programs in lower income countries (GH-6-Faculty). This is important to keep in mind since many individuals may not consider the importance of the transferability of student training between the domestic and international spheres.

Faculty, students and alumni who were interviewed all had some experience at the intersection of GH and BSHE, some with formal training in both domains and others less so. Students and alumni had engaged in community-based, often education-related, work. Several of the students were applying behavioral theories in communities outside mainstream US culture, including as part of their GFEs, which most of the BSHE students interviewed completed outside the US. Several HDGH faculty had previous or current work in health education and behavior change; BSHE faculty had projects based outside the US. It is crucial that the two Departments have such faculty with work at this disciplinary intersection if they are to build strong collaborations and successfully mentor students who want to develop effective interdisciplinary skills.

Global Health and its intersection with other aspects of Public Health

Faculty members in both the HDGH and the BSHE Department were asked about their perception of Global Health as a discipline and its intersection with other sectors of public health. As one faculty member phrased it, “the definition of Global Health can be problematic” (BSHE-01-Faculty). BSHE faculty generally thought of global health as simply the application of public health concepts to populations outside the US or from outside the US, including

refugees and immigrants, rather than a separate discipline. Some areas of work might be more global than others, like WASH, but simply because of the infrastructure and associated factors that affect behavior (BSHE-02-Faculty). Perceptions among HDGH faculty were varied, although some agreed with the BSHE definition. For others, even without labeling global health a discipline per se, a "global health approach" exists and this can be applied to other areas of public health. This approach affects the nature of collaborations and is interdisciplinary:

> *To me a global health approach doesn't mean just doing research in another country. That's just international work. The analogy is like global economics, where various markets intersect and have collaborative and natural relationships. Global Health is the same. Global Health is more than a bunch of American researchers working in Africa. A true global health approach is forming collaborations, true consortia, people from multi disciplines and multi cultures working together to a common goal, to solve a problem.* (GH-02-Faculty)

Whether a separate discipline or a way of thinking, the consensus in the HDGH was that global health was a development from the earlier fields of Tropical Medicine and International Health. It represented a shift away from more developed entities that had taken a paternal role towards less developed countries. This change was best described as: "*the way in which we can share lessons and learn lessons so it's not a one-way street anymore […] it's about what can we bring to the table, what can they bring to the table, what can we share because we're all living in this global world together*" (GH-04-Faculty). HDGH faculty also perceived a collaborative aspect to global health that they suggested might be less ingrained in other disciplines, if not unique to global health. Faculty comments suggest that the distinctive strengths of global health,

whether it is a discipline or an approach to problem solving, should be highlighted and woven into coursework and curricula that include the "global" label.

Factors influencing the decision to apply to and attend RSPH

Students and alumni, in explaining how they had chosen to apply to and attend RSPH rather than other schools of public health, pointed to several factors. RSPH's ranking was a strong factor both when deciding which schools to apply to and which to ultimately attend, as was the marketability of a degree with the Emory name. Additionally, the resources that students would get access to at RSPH were attractive, including RSPH's proximity to CDC and Atlanta's overall public health atmosphere. The strong potential for networking, finding connections and public health opportunities due to Atlanta's location, the school's merit and Career Services were also key deciding factors. Word of mouth also counts highly, with three students having applied on the advice of friends, advisors and others in the field of public health. This is important when considering the level of student and alumni satisfaction with their MPH experience and the likely impact this will have on whether they will recommend RSPH to potential future applicants.

RSPH's commitment to the thematic areas that were interesting to applicants (HIV/AIDS, faith and health, sexual and reproductive health, and maternal and child health specifically) was a draw to students in both departments. For students who originally applied to the HDGH, the presence of a dedicated Global Health Department and its concentrations was also a motivating factor. Both students pursuing BSHE degrees and those in global degrees (GH and GLEPI) also weighed the opportunity to do international practica heavily.

Faculty in general were mentioned as being a draw of RSPH, with Dr. John Blevins (and the Interfaith Program more generally) (BSHE-03-Student) and Dr. Rob Stephenson (GH-03-

Alumn) specifically singled out, as well as the presence of strong HIV/AIDS researchers (BSHE-02-Student).

Of direct interest to this project, the GLEPI interviewee was specifically attracted by the unique combined global health-epidemiology option. Although she had applied for programs in BSHE-related areas at some schools and epidemiology at others, she wanted a global perspective and felt this would be ideally served by RSPH's GLEPI degree (GLEPI-01-Student).

Perception of other schools of public health considered by those who attend RSPH

Looking at the schools of public health (SPHs) that the students and alumni had also considered attending, several were mentioned repeatedly: UNC, George Washington University (GWU), Tulane, Boston University (BU), Michigan, Johns Hopkins (JHSPH), Columbia and the University of Arizona. Yale, the University of Illinois Chicago and an unnamed school outside the US were considered by one student or alumnus each. Harvard not offering an MPH degree was a deterrent for one student. When thinking about how to adjust RSPH's degree offerings to make it more attractive, it is important not only to know which schools RSPH competes with, but also to consider the factors that make a difference when students choose to attend RSPH.

Columbia's "jigsaw" curriculum was mentioned both positively and negatively. Columbia was seen to have a strong global perspective, stronger than RSPH's. However, the School does not offer behavioral health education training, a detractor to students who compared it to RSPH's BSHE degree option. Additionally, the training Columbia offers was perceived to be very thematic and hard to apply across other sectors of public health. According to one student interviewee, students at Columbia apparently found the new MPH program there very overwhelming (BSHE-03-Student), an opinion that may not be as negative now that the School

has had two cohorts complete the new degree. One interviewee also felt that *"[Columbia was] not giving the same kind of quality education that Rollins would*" (BSHE-01-Student).

Michigan was attractive to those who had attended it as undergraduates, but seen as "not at all globally focused," although faculty do have projects based outside the US (BSHE-03-Student). A surprising "competitor" mentioned by a student from each department, was the University of Arizona's Zuckerman School of Public Health. Although it lost out to RSPH due, in large part, to its lower ranking, the strong ties of the school to the community and Latino health as well as its work at the border and its emphasis on social determinants of health were viewed favorably.

A GH student specifically mentioned that the fact that RSPH's international department was called "global health" rather than "international health" made the school appear more forward thinking, compared to others. This impression was reinforced after she visited and sat in on a lecture that discussed the history of global health: "*That [lecture] really stuck with me and that kind of made me decide to go to Emory as opposed to BU because I thought that that was a little bit more progressive and worldly thinking"* (GH-02-Student). A GH alumna's reflection on the value of a program like RSPH's crystallized many of these factors: *"Smaller programs don't have the same perspective as Emory or even Johns Hopkins or UNC Chapel Hill or something like that, it's vastly different to see the programs. I'm not saying that you're going to get bad education there but it's a vastly different worldview and world perspective by going to Emory"* (GH-02-Alumn)

Faculty perceive other schools' approaches to global health to be somewhat different from RSPH's, partially because RSPH is one of the few to have a dedicated GH department. Tulane, the University of Washington and UNC were mentioned as the other "international/ global"

schools. Joint degrees were mentioned as possibly giving RSPH a competitive edge to attract students looking for global perspective since much of public health has become global (GH-01-Faculty) and "most of us don't have siloed interests" (GH-03-Faculty). Students at RSPH were reported to like being able to customize their programs also. The perception is that Johns Hopkins is not offering this option but may be the closest to offering something like it (BSHE-02-Faculty), that UNC "pairs all [their degrees] with global health allegedly" (GH-01-Faculty) and that when students think about global schools, combined programs may make a difference in where they ultimately choose to matriculate.

It is clear that RSPH's ranking and prestige, global perspective and ties to the public health world are points in its favor. RSPH and its Departments have an advantage over other SPHs by being located in Atlanta and having strong ties to CDC and a strong past reputation. Students also rejected other schools for fear of not having transferable skills and being too siloed in their training. Capitalizing on RSPH's current interdisciplinary programs and developing additional options that clearly offer non-siloed training could help enhance RSPH's reputation for training effective, flexible MPH graduates. It would also further differentiate it from other schools that share similar rankings and prestige.

Perception of RSPH's MPH training

There is a strong sense that overall the MPH curriculum, regardless of department, is fitting in as much as it can over the course of its two years. Alumni feel that few credits, if any, are wasted and that trying to add more requirements would be challenging. One student commented that part of getting a strong experience and successful training during a student's MPH involved getting skills beyond the classroom, rather than relying on the Emory name to get ahead:

> *It is up to the students to really make sure they're going out and doing [getting the skills they need]. I feel like that's the biggest thing with Masters': you kind of have a get-by-free card because you go to Rollins because there's all these really amazing opportunities, so you've got to just take advantage of that*. (BSHE-05-Student)

One perception that came through from both students and alumni was that "*you want to be learning things from your classes, from your professors you really can't learn anywhere else*" (GH-02-Alumn) and that classroom knowledge should go beyond what can be read in a book (GLEPI-01-Student). When deciding what courses and pedagogy to prioritize, this insight is an important one to keep in mind – it may be beneficial to consider including a non-classroom-based component to students' training. Skills that need expert instruction and cannot be learned passively from reading should also be prioritized.

BSHE MPH training

Students and alumni perceive the BSHE curriculum to provide strong training in "hard skills" and theory, teaching them most, if not all, the skills they believe they should be acquiring. They feel that they get as much as they can in the two years of the program and that they are well trained to work in a variety of different positions. However, a BSHE alumna did add that she felt the skills taught were aimed at entry-level positions (BSHE-01-alumn), which may be a concern for students who enter the Department partway through their careers.

The teaching of theory was mentioned by individuals from both departments as a strength of the BSHE curriculum and one aspect of public health training that GH students wished they had more of. One criticism of this, however, was that sometimes the approaches taught did not seem

realistic or applied enough (BSHE-05-Student). BSHE students also felt that they were receiving strong training in data collection and analysis (BSHE-01-Student).

Students from BSHE felt that it was difficult to get a global perspective in their courses that were based on "very American populations", including in their Community Needs Assessment course. It was felt this course could address this issue by including an opportunity to work in more international communities, even those based out of Atlanta (BSHE-02-Student). Those that sought courses outside the BSHE Department to get this "international wisdom" were satisfied. Faculty in the Department agreed that BSHE was not necessarily training students for global work through courses but that work and association with faculty could provide this skillset: "*if they are prepared it's more by association with individual faculty because we don't have a global focus or an international focus*" (BSHE-01-Faculty). Many felt that there was adequate flexibility to take courses outside the BSHE Department to get this global perspective if students wanted it. Additionally, it might take a more purposeful and motivated approach to choosing one's classes: it is possible to take non-prescribed classes that still satisfy departmental requirements, such as the HDGH Monitoring and Evaluation of Global Public Health Programs class instead of the traditional BSHE Theory of Evaluation Research course (BSHE-03-Student). Two students who had originally been drawn to the HDGH found their BSHE program to be "a great fit" both due to the skills they were learning and the access they were getting to courses and opportunities around their thematic areas of interest (BSHE-05-Student). The general impression of the BSHE curriculum, from students' and alumni's perspectives, is that students get strong training in "hard skills" and theory and that they manage to get most, if not all, the skills they believe they should be acquiring.

GH MPH training

Students, faculty and alumni agreed that the GH curriculum as it is taught is very broad and that it teaches strong research skills. That the curriculum is broad by design, allowing students to hone in on their thematic areas and skills of interest, was mentioned by several faculty members. The reality of this approach is clear in the variety of courses and methods students discussed. An alumna from the HDGH mentioned that she often encourages applicants to go to RSPH and get a specific skillset that is applicable across thematic and geographic areas. She agreed with faculty that the breadth of a GH degree is an asset, as this flexibility could allow students and GH graduates to apply it to a wider range of positions than might be possible with more, for example, health education-focused training (GH-02-Alumn).

The faculty and the rigor of the curriculum were cited as strengths of the HDGH. Students and alumni strongly emphasized their satisfaction with the subject-matter experts who taught the courses. A BSHE student who took GH courses also appreciated the wisdom that was naturally woven into courses across the Department (BSHE-05-Student). GH students who were purposeful in choosing "methods" courses appreciated the rigor of those classes, although they would have liked more experience developing deliverables of different types (GH-02-Student). This strong faculty expertise, rigor and global perspective are key aspects of students' training that any HDGH-associated programs should prioritize.

It is obvious that quantitative and research skills are highly prioritized for GH students, with one student qualifying the emphasis on quantitative methods as "a general ethos" applied to all students (GH-01-Student). Some concern exists that this may not be appropriate for students more interested in behavioral, community-based work, for which qualitative and program development skills may be more suitable. Faculty also praised courses addressing qualitative

methods as important for students' future behavioral work. More specifically, however, faculty advocated for these courses to focus more on participatory and community-based approaches, including CBPR, asset mapping and community engagement (GH-02-Faculty, GH-06-Faculty). One concern associated with the development of community-based approaches is that any engagement of this type cannot exceed the three-month duration of a semester for any individual student. Engaging for such a short time with communities outside Emory/RSPH that are culturally very different from students may pose some ethical issues, if done without the necessary support and cultural training (GH-06-Faculty). Although many students seeking interdisciplinary training wanted more experience with communication, it was repeatedly mentioned that the HDGH only offers one course in behavior change, reaching only twenty students a year.

Although it is clear that, from the perspective of HDGH faculty, there is a strong emphasis on methods in HDGH, this may not always be clear to students. Many believe that GH students do not receive as strong a skills-based training as those from departments such as BSHE and Epidemiology. This was clear when the GLEPI interviewee said,

> *I'm grounded in a skillset, which is Epi. […] I think it's really important, at least for people like me, who are really career oriented, to combine GH with something skill based. I don't think of GH as skills based; personally I don't, not in the way that Epi and BSHE are. So I feel it's important for at least students like me, to combine GH with a skill based discipline*. (GLEPI-01-Student)

This perception was less evident among alumni and may indicate that the skills students get from their GH degrees become more evident when are applying their knowledge after graduation. This may also explain why survey results show that alumni felt more satisfied by

their MPH degrees than did students. This is also relevant when the Department considers joint-degree programs such as the GLEPI and GEH degrees, as well as the way it markets itself and its degree both to prospective and current students. From the perspective of faculty, students can acquire the same skills from a GH degree that they can get, for example, from GLEPI (GH-07-Faculty). It is important that this be clear to students, since it is "the rumor mill" that perpetuates the idea that this is not the case (GH-03-Faculty).

This negative perception of the skills training afforded by a GH MPH leads to a drain on HDGH resources. As some students who enter RSPH as GH students become convinced that having a "skills-based" label on their degrees will make them more marketable, they switch degree programs, especially to GLEPI. Although they are now housed in the Epidemiology Department, they continue to access HDGH resources, by taking courses in the Department and having HDGH faculty on their thesis committees. This puts pressure on HDGH faculty's time and course enrollment limits, without providing the benefit of students' tuition dollars since they no longer "belong" to the HDGH. This imbalance of resources is not sustainable, particularly as recent cohorts of students have grown (GH-03-Faculty). This issue is further addressed below.

There is also some worry about a mismatch in the training the HDGH is offering students and what students are really looking for when they select RSPH for their degrees, particularly in the field of behavior change and program planning. One faculty member felt that the School was attempting to address this gap but that the HDGH was not providing appropriate training for those students, although the BSHE Department might be doing it more successfully. She agreed that the HDGH trains "*great researchers. We're good at that, but we put less emphasis on training applied practitioners*" (GH-06-Faculty). Concern also exists that the way in which these research methods are taught may not be appropriate for real "boots on the ground" public health

research and program practice, of particular relevance for students who want to work in health education or behavior change after graduation (GH-05-Faculty).

A criticism of training in the HDGH was the pedagogy used in courses, with concern that the more traditional PowerPoint-based lecture may not be appropriate for teaching community-engagement topics. A more "collective collaborative" approach may be more conducive to the types of discussions that students interested in community-based work should be learning to have. Pedagogy may be stronger in BSHE courses partially because faculty have training in education while the strength of the HDGH is perceived to be more in subject-matter expertise (GH-01-Student). Global health courses should take an approach that encourages students to "*learn how to be context-specific, but comparative at the same time. So that's there's a constant awareness of the experience of other locations with similar problems, and how that can inform strategy"* (GH-05-Faculty). This would also address the needs of students interested in programmatic and global work. Additionally, to ensure that students selecting equivalent courses in different departments are getting truly comparable training, the School should ensure that such courses teach the same competencies, while allowing for thoughtful variation across instructors (GH-04-Faculty).

From the faculty perspective, it is not clear that all students are getting the training they need to function in the current world of global public health, something particularly worrying for students graduating from an HDGH-affiliated program. Beyond "speaking the language of global health," students need grounding in budget development, program management, grant writing, policy brief drafting and the ability to talk to a donor audience (GH-07-Faculty). A recent increase in the number of GH students not engaging in global practica is also a potential gap in students' training. If students are entering RSPH with previous international work experience,

this may not be a cause for concern; however, if students leave with a "global MPH" degree and have no experience working with global populations, this would be problematic (GH-01-Faculty).

Students acknowledge that is not only coursework that trains them as global health practitioners. Several interviewees emphasized that their practica, thesis topic and advisor choices had been crucial in building their skills. Being very purposeful in choosing advisors and opportunities can enable students to fill the gaps they perceive in their classroom-based training, particularly when looking for an interdisciplinary perspective. BSHE students interested in global work selected international practica and some engaged in thesis work or additional employment with global research or programs. However, it appears that many outside the HDGH do not perceive international practica and resources to be openly available to them. It was pointed out that this was not only a disservice to the students, discouraging interdisciplinary collaboration, but also to organizations who might need a skillset that was stronger in non-HDGH students, such as curriculum development (GH-04-Alumn).

MPH training in both the HDGH and the BSHE Department

Two issues were brought up that concerned both BSHE and GH training. One gap repeated in several interviews was in programming, including program design, program management and budgeting. The only programming course mentioned was the BSHE Program Planning Capstone, which accepts twenty students a year (GH-06-Faculty). Another was a lack of engagement with issues of power, social class, race and privilege, topics that a BSHE student felt faculty in her department treated distantly and an HDGH student felt were not addressed in hers. This is an important conversation to have not only for domestic work, but also for anyone wishing to

pursue international public health. Although students may be able to seek out these conversations on their own, they felt that these should be better addressed within the curriculum. The BSHE student expressed some skepticism about the ability of the faculty to engage students in realistic discussions of power, privilege and humility without the distance that often comes from academic discourse on these issues (BSHE-01-Student).

Lastly, across both departments, the question was raised around whether admission requirements for students should be more rigorous, particularly in terms of previous work experience and international work experience for GH-affiliated degree-seekers (GH-01-Faculty). This is also concern that many students are not well equipped to engage with concepts of inequality, global issues and the social, political and economic concepts that interact with and affect public health, especially in global contexts. This could be remedied through more stringent application requirements regarding previous experience or by changing the way in which students learn to integrate socio-contextual perspectives with their public health training (BSHE-01-Faculty).

Competencies

BSHE Competencies

Many interviewees consider the BSHE curriculum to be very skills-oriented. It is clear there is a strong, identifiable core of BSHE courses that everyone can identify: community needs assessment (CNA), grant writing, qualitative research methods, theoretical grounding and curriculum development. Additional skills that were regularly mentioned as being taught in the BSHE curriculum were quantitative research methods (distinct from biostatistics), evaluation research, application of theory, health education and data analysis in general.

BSHE faculty expected their students to have research design skills, including applied evaluation research skills, as well as an understanding of the progression of the field of public health, the main disparities, social and contextual determinants of health and their implications, and the effects of economics on health, race and gender. Students should also acquire an appreciation and understanding of the behavioral sciences and health education paradigms and how to modify and adapt them for application in other contexts. They were expected to graduate with a grounding in public health practice and know how to "consume" research and apply it in the development of interventions and health education (BSHE-02-Faculty). The ability to understand and work in different settings and with different cultures, including professional development, sensitivity to contexts and people and more general "people skills" are understood to be gained through the community-linked courses that make up a large part of the BSHE requirements.

BSHE students had a similar perception of their education, in terms not only of the "hard skills" they were learning through their courses but also of the additional values around which the courses are clearly built. They identified teamwork and interpersonal skills, critical thinking, interviewing skills, stakeholder engagement, identification and communication and patience and flexibility when interacting with teams and stakeholders as key "soft skills" they had developed. Like their faculty, some felt that cultural competence was partially developed through the experience of working with community organizations that were different from themselves and they all appreciated that they were learning theories to apply them anywhere.

Students and alumni outside the BSHE Department found the approach to community engagement in their courses a strength and core value of the department (GH-01-Student), including the focus on being able to relate to the community they were engaging with while

being reflexive (GLEPI-01-Student). They also all reiterated BSHE's commitment to the application and use of theoretical frameworks to base interventions and research questions.

HDGH faculty perceive BSHE to teach a strong core of theory of change, an understanding of the socio-contextual environment and its effects on behavior, and translation of research into practice. They also appreciate BSHE's systematic grounding of instruction in the community. Program planning, including intervention mapping, was identified as a competency missing from the HDGH curriculum but addressed in the BSHE Department, through a Capstone course (GH-06-Faculty). A potential weakness of BSHE's training was some students' inability to apply and transfer their theoretical training into practice (GH-02-Faculty).

> [*BSHE training] puts into context the whole reason why we do public health. It contextualizes public health as a historical and community grounded entity […] where it's been, where it's going, where it's moving through, where we are in the current state of public health as we look at health disparities, socio-contextual factors and understanding what those health disparities are. That's where public health is now as a model and so everything we do in BSHE is focused on that model* (BSHE-03-Student)

GH Competencies

In contrast to the clear, well-delineated BSHE core skills, participants identified differing core GH competencies. As mentioned earlier, the design of the GH curriculum was purposefully flexible, for "*the consummate student who is able to just go in and design their own experience, knowing exactly what they want*" (BSHE-03-Student). From the internal, HDGH perspective, "*this is a real methods-rich curriculum and we train students regardless of whether they want to*

be international or domestic; we train them on the core skills they are going to need, but all those things are taught with a global perspective" (GH-03-Faculty).

Faculty expect all students with a "global anything MPH" (GH, GLEPI and GEH) to graduate from the HDGH with a grounding in the understanding of the global landscape and language of global health and their own tailored set of content expertise married with the skills to engage in or at least understand relevant research that will inform their practice. Speaking this language was defined as follows:

> *You need to be able to articulate what are the barriers, what are the challenges and how do you work in a global environment, who are the different players, who are the different organizations you need to collaborate with. So you need to understand the global health environment, the global health burden of disease and some of the key initiatives and issues in global health […] to articulate the MDGs and what's going to happen afterwards and what is the future and why defining strengthening health systems is actually an issue.* (GH-07-Faculty)

This foundation is crucial to contextually understanding past efforts in prioritization and how global health developed. Beyond the purely "public health" world, students need an understanding of "*the history, international relations, non-health influences on global health. Understanding what a global health approach is – looking at international relations, trade agreements, all these things that create the structural factors that shape public health*" (GH-02-Faculty). Understanding the landscape is crucial to be able to navigate it with the "hard skills" students are also acquiring.

Beyond this foundation, faculty also identified quantitative methods, including biostatistical and epidemiological methods, qualitative methods, monitoring and evaluation (M&E) and

proposal development as key skills they want GH students to acquire. An understanding of data collection and analysis is important to at least be able to understand and critique evidence, if not actively pursue research work (GH-03-Faculty). M&E was emphasized repeatedly as an important skill for GH students with a need for this skill to be developed with "*all the permutations so when you can't do baselines or when you can't have a counterfactual, what do you do?"* (GH-06-Faculty). Essentially, students should be exposed not only to the ideal, research version of M&E but also to the programming and funding realities thereof. Survey development, assessing community needs and program planning were also suggested, depending on students' professional needs.

In addition to these "hard skills", like in the BSHE Department, faculty strongly emphasized the importance of additional "soft skills", in this case flexibility, adaptability, quick learning and critical thinking as skills for global work that they wanted students to acquire. Humility was repeatedly discussed as being crucial for an effective practitioner in the global sphere. A "sensitivity to culture" and an awareness of culture were also clearly important for the type of work faculty expected from global health students. Faculty expected cultural competency to be built up through multiple experiences rather than one specific course, much like community engagement was discussed by those in the BSHE Department:

> *I wouldn't want to have a class that is like checking a box, like "Cultural Competency class. Check! Now we have that covered!" I feel like it needs to be a thread that runs throughout and we need to deliberately think about the ways in which we can build that into, specifically the global health curriculum. But I'm careful about saying that because I think something like that is something that all public health students should be getting* (GH-04-Faculty)

Similarly, an awareness of one's power dynamics in terms of race, background, gender, education and expertise would be important for GH students (GH-04-Faculty), particularly as students should be able to work across disciplines within and outside public health and across sectors to engage with different types of stakeholders effectively (GH-06-Faculty). This is in line with what students felt they wanted to discuss but may not currently be engaging with.

Lastly, faculty overwhelmingly agreed that simply having methodological skills was not enough for global health practice and wanted students to be getting topical expertise also. Students are expected to learn to marry methodology with content in their area of interest.

These perceptions of the curriculum and its core skills were generally echoed by students and alumni in the HDGH. The focus on quantitative analysis was described as an "ethos" of the Department (GH-01-Student) and an alumna suggested focusing on grant writing for real organizations, such as USAID, rather than specifically GFE proposal writing as more useful for students' future work (GH-02-Alumn). Both GH students and alumni mentioned the focus on content and thematic courses as strengths of the HDGH curriculum. The role of the practicum was highlighted as a way to develop project design skills and proposal development. Two alumni discussed the importance of their experience learning to use DHS data and evidence to do situation analyses and inform intervention development through the core requirements of their GH MPH programs. From the Community Health and Development track, practical skills such as evaluation, budgeting, management, and broad intervention design methods were mentioned also as important training (GH-03-Alumn).

From outside the HDGH, the perception of the GH curriculum is somewhat different. The one core GH skill that was mentioned was M&E, counterpart to BSHE's Conduct of Evaluation Research course. The most common perception of the GH curriculum from BSHE students (and

from one GH student) was that it taught strong contextual knowledge but did not provide students with skills-based training. The value of this approach was questioned by a few student interviewees:

> *I feel like you just get content and you don't get skills. […] I have friends in global health who always try to get into BSHE classes for skills because they say Global Health doesn't offer them. […] Coming from a background that's so focused on skills and building up your skills, taking classes that are just content based, that's kind of hard for me […] They don't feel like they have skills to go out and do stuff. They have a lot of content knowledge.* (BSHE-04-Student).

This contextual knowledge, knowing how to work with international populations and tying content to skills training are still as valuable parts of GH training (BSHE-05-Student). Lastly, in contrast to what one GH student perceived to be a weakness of her degree, a BSHE student discussed the GH curriculum as teaching students *"an analytical skill, being able to take a step back and recognize power and inequalities in public health in general, in where the money goes, in what research projects get funded, in how we interact with the people we're serving, in whether or not you're perceiving this as serving"* (BSHE-01-Student).

Competencies for students wanting to engage in global behavioral/ health education work

Faculty in both departments identified the core skills they perceived their own department to be teaching to also be the most important skills for those working globally. These included methodological or "hard" skills, as well as interpersonal skills, and an understanding of behavioral theory.

Methodological skills that faculty across the board advocated for were community needs assessment, program planning and M&E, quantitative data analysis and qualitative data collection and analysis. HDGH faculty also wanted students to know how to use existing data such as DHS data, and understand its quality. Many faculty wanted every student to be able to use qualitative methods, though one faculty member felt that not all students had the "brain for it" so basic understanding and appreciation of its process and value might be more appropriate. Basic survey development and curriculum design were mentioned, the latter not only as a specific tool, but as a method to understand the strategies used to develop interventions based on context (GH-06-Faculty).

For the most part, students and alumni agreed with these core "hard skills" and the need for a deeper understanding of theories and their application in and translation to global contexts. For HDGH students, this required a stronger base of theory and community-based practice than they currently get. For BSHE students, this meant learning how to translate theories across non-US contexts, working with less traditional US populations and a more intentional inclusion of cultural competence skills in community-based classes. An alumna with experience in both departments wanted training that would involve,

> *[…] how you apply a theory in an international setting and understanding what might be some of the limitations, what can you do with theory using qualitative work, grounded theory maybe, other approaches and how do you test those theories? How do you also learn from the testing and application of theory in contexts that are not the ones that you've been working in? What are the strengths and limitations of the research that already exists in areas that you aren't working in?"* (GH-04-Alumn).

HDGH faculty also advocated for critical analysis skills and the ability to translate research into practice. This includes communicating findings to other public health professionals, community members, policy makers, donor audiences and other stakeholders and communicating directly with communities to spur behavior change. Being able to advocate for public health interventions and to prioritize based on evidence was deemed important. Strong communication skills, both written and oral, are clearly very important also, as the basis for many of these higher-level skills. The language of global health and the understanding of the global health environment are also seen as part of the toolkit that global practitioners need.

Associated with these skills but less strictly public health-related, management skills were discussed as being important, including some that would tie into the "program development" component that many interviewees discussed. Although such a course was not known to be offered at RSPH, an HDGH faculty member discussed these skills as having been identified as crucial by public health professionals:

> *They have no idea how to manage a project, […] how to do a budget, to deal with personality issues, […] the skills that everybody needs to work globally are […] business skills, like project management, including budgetary and strategic planning, cost benefit analysis, organizational management, political sensitivity, writing skills, scientific and grant writing skills, writing for different audiences, persuasive writing. I mean I really think that for students to work in global health it is critical for them to be able to do this to write a grant, to write a policy brief…*
> (GH-07-Faculty)

Faculty, students and alumni contributed to a list of less "tangible" skills that came through as key for effective global public health work. These include: the ability to be sensitive to and

aware of culture and local contexts; to assess power dynamics and one's position and influence and, in doing so, approach work with a very deep sense of personal and academic humility; to be realistic about one's potential impact and how that tied to a community's needs; to respectfully engage in conversation with various types of people; to learn how to work with different types of communities (urban, rural, informal), across language barriers and literacy levels; to negotiate conflicts and expectations.

Practical experience either as a requirement for entrance into RSPH or as a core aspect of courses and MPH training is also important to faculty, with students needing to "*learn a little bit more about the politics and where the rubber meets the road, and being responsive to people when they call and ask for help*" (GH-01-Faculty). This, many mentioned, could be done through coursework, but also through practica, thesis and other employment that enabled students to apply what they learn in the classroom in the "real world".

Students and alumni advocated for a mixed-methods approach, more intentional addition of theory to GH courses and more intentional multi-cultural dimensions to BSHE courses. Those who had experience with the Clarkston-Rollins Connection (CLaRC) framed it as a strong marriage of the application of theories and classroom-learned skills with a transnational population (BSHE-03-Student, GH-03-Alumn).

One faculty member summarized the ideal intersection of the two departmental approaches thus:

> *I've worked with BSHE students who have this really great theoretical approach, and are probably further down the line in cultural adaptation than global health is, but they don't think about how to measure any of their impact. It's almost like the BSHE mantra is 'we'll build it and it will live, but somebody else will measure*

> *it'. I think to be truly global BSHE you need to do both. So for me a global BSHE would marry those together: the hard quantitative skills of survey design, M&E, surveillance, with the theoretical side, cultural adaptation side.* (GH-02-Faculty)

Perception of the GLEPI and GEH programs and students

To better understand the role of the current interdisciplinary programs and how their students differ from students pursuing a one-department degree, faculty, alumni and the student interviewee from GLEPI were asked about their experiences with the GLEPI program. Faculty and alumni were also asked about the GEH program.

The GLEPI program was developed in part in order to enable those who wanted advanced epidemiology skills to enter courses limited to students enrolled in the Epidemiology Department (GH-06-Faculty). It was also thought to be a good tool for recruitment (GH-07-Faculty). Now, however, students from any department can and do take many of those courses. Students enter the GLEPI program if they are accepted by both the EPI and GH Departments. For GEH only the Environmental Health Department reviews applications (GH-01-Faculty). Those who commented on these programs' effect on the HDGH's recruitment pointed to increasingly large cohorts of all three types of students (GH, GLEPI and GEH) and as potentially being an asset when RSPH is compared to other schools, as described earlier.

There appear to be some differences between GEH, GLEPI, EH, EPI and GH students. Based on data from a previous alumni survey, GLEPI students were as or more likely to engage in international practica, to use original research for their theses, and to go on to international careers when compared with global health students (GH-01-Faculty). Opinions differ on whether these students differ from GH and EPI students. According to one professor, their career paths

are not significantly different from students who focus solely on global health and they differ from regular EPI students, who do not usually pursue international careers (GH-01-Faculty). However, another faculty member cited a 2009 evaluation of the program that indicated that

> *…nearly all apply secondary data analysis and quite a few are based on US data. This would be consistent with the EPI thesis requirement but different from the typical GH theses that entail original research design, data collection, and analysis. In our last global health alumni survey, GLEPI students were among the least likely to have taken a position internationally*. (GH-07-Faculty)

By all accounts, GLEPI students seek out advice from GH advisors and faculty, have a passion for global work, and are very quantitatively strong. Faculty enjoy working with and mentoring these students.

Faculty believe that what drives at least some students to seek out global degrees is the "sexy factor". Being labeled a "global" public health practitioner is attractive to students in the current landscape of the globalized world, whether they have any real understanding or interest in global work or not (GH-07-Faculty). They can also market their qualifications to global positions. Conversely, some GH students might want the "epi name" for marketability purposes (GH-05-Faculty). At least one faculty member was skeptical about the value of this additional title, pointing out that most employers would focus on the "MPH" part of the degree rather than digging further into the department, track and certificate a student had completed (GH-04-Faculty). Some of the draw of the GLEPI program might be a marketing and "rumor mill" issue also since, in reality, it is completely possible for a GH student to graduate with the same skillset as a GLEPI student (GH-03-Faculty). The decision of the GLEPI student interviewee embodies many of these perspectives: she wanted a degree in GLEPI rather than GH to use the global lens

from her previous experiences while grounding herself in a skillset in epidemiology. She did not want to be solely "global", however she worried about not being able to access global and funding opportunities if she did not have an affiliation with the HDGH (GLEPI-01-Student). She explained,

> *It was problematic to come out of a master's degree program without being able to say I'm an epidemiologist or I'm a behavioral scientist to have that kind of a title that just describes your skills, and explains who you are professionally […] it's kind of a silly reason but that was my preoccupation when I was applying to schools*" (GLEPI-01-Student)

This insight by students who choose the interdisciplinary program is key when considering the framing, naming and layout of potential future programs.

The current layout of the GLEPI and GEH requirements raises some questions. Most interviewees were aware that there is an imbalance between the global health competency requirements and those from the home department. The global requirements used to include the second core GH course (GH542). This imbalance satisfied the GLEPI student, who felt that her previous global experience allowed her to bring that lens to her coursework regardless of class requirements (GLEPI-01-Student). Faculty were less satisfied by the status quo. The vast majority did not feel that having only one core GH requirement was enough for a student to call themselves "global", particularly as students in all departments are required to take one foundation global health class. Having only half of the "GH core" (i.e. just GH501) rather than the global health foundation class for non-GH students (GH500) may be a disservice since GH501 was designed to set students up for a longer exploration of GH issues. As a result, counter intuitively, global joint-degree students may not receive as much grounding in the

"language of global health" as students in non-global programs (GH-07-Faculty). To counter this, aside from changing the requirements of the programs, it was suggested that all those students who want to have "global-something" degrees start out in the HDGH and then specialize in their second year in an EH, Epi, BSHE or other skillset they wanted. This would ensure that everyone who will graduate with "global in their title" has a strong GH foundation (GH-07-Faculty).

The other main issue with these programs is the human resources aspect, a concern almost all HDGH faculty mentioned. HDGH faculty do not simply advise, mentor, teach and chair theses for increasingly large cohorts of HDGH students. They also undertake mentorship for students in the GLEPI, GEH and other programs. However, although thesis chairing of GH students counts as service to the department, sitting on committees for students whose home department is not the HDGH does not. Since GLEPI students are housed in the Epidemiology Department and GEH students in the Environmental Health Department, this mentorship is not seen as serving the Department. In the words of one faculty who has had this experience

> *I mentor a couple of students right now who are Global Epi students and one of the requirements in the Global Epi program is that their theses have to be chaired by someone who is in the Epi department. That's what was frustrating to me because I've spent a lot of time mentoring those students, I am their primary mentor, in fact. But someone else is going to chair their theses and, in terms of recognition of faculty, for faculty mentor which is something that is extremely undervalued in many ways, it's extremely frustrating to me that I'm investing a lot of time in mentoring these students but I'm not… I'm going to a be a member of*

their committee but I'm not going to be the name they record when in reality I'm the one that has mentored them" (GH-04-Faculty).

Additionally, this drain of faculty time and availability may negatively impact students who are solely affiliated with the HDGH. If a faculty member is willing to mentor five student theses and four of those are GLEPI students, only one GH student directly benefits from this professor's expertise. This "numbers issue" is a realistic concern that increases if students who are originally accepted only to the GH program switch to GLEPI, taking their tuition dollars with them, as many did in the last year (GH-03-Faculty).

Lastly, it is important to assess the success of these interdepartmental programs. In order to do that, it will be necessary to establish a set of criteria by which to measure this success. This step was suggested as an avenue for further research.

Perceptions of a Global BSHE program

In general, there is strong support for the development of a joint GH-BSHE program among those interviewed, although the reasons given differed greatly.

Seven of the eight students expressed support, as did all the alumni. Seven would have applied to this program, and two felt they would likely have transferred into it after their first semesters at RSPH. This support focused on the marriage of the BSHE skillset and training in behavioral theory with a global perspective not always accessible due to the largely domestically focused BSHE faculty and courses. Several student and alumni interviewees discussed wanting this training without losing access to HDGH faculty, global opportunities and funding that may not be obviously open to students outside the Department. This mirrors the reasons why the GLEPI program was developed. For a BSHE student, the GH curriculum had been attractive, but

was too flexible, allowing too much room for error. Assuming a GH-BSHE program would be more similar in structure to the current BSHE curriculum, and combine the two sides of public health he wanted to delve into, he would have chosen this program "hands down" (BSHE-03-Student). For those who are globally inclined, the program might be more attractive if housed in the HDGH. Its mere existence could also help students to understand the natural connections between the two departments and disciplines (GH-04-Alumn). Interestingly, the GLEPI student would have been equally if not more interested in gaining a globally applied BSHE skillset than one building on epidemiology concepts (GLEPI-01-Student).

The faculty were more divided on the issue of developing this program. There was no strong opposition to at least developing a proposal to investigate possibilities and faculty generally seem to see a value to such discussions. Any proposal would have to consider the realistic concerns of "ownership" of the students and their tuition dollars; the development of the curriculum and the necessary balance between the expectations of the two departments; the burden on faculty; and the structure of such a degree. Faculty unanimously agreed that the current GLEPI/GEH curriculum model would not be suitable, since it did not reflect a true balanced joint degree. However, they felt that students should be accepted by both programs, as in the current GLEPI model. The general sense among faculty is that "it would be great, if done well" and if it helped to promote collaboration among faculty, improve the relationship between the departments and provide training that the students could not access as the programs stand now, with purely GH or BSHE degrees. In particular, if nothing else, such a degree could make it easier for students from the HDGH to take courses in the BSHE Department that are restricted to BSHE students. A similar rationale led to the development of the GLEPI program.

Beyond simply supporting or opposing the creation of a GH-BSHE degree, individuals had many suggestions about the best ways of structuring the program to provide students optimal training. A new certificate program, an additional GH concentration, a modification of the existing Community Health and Development (CHD) concentration, as well as the development of a new degree were all suggested. Before the inception of any new program, a reflection on interdepartmental collaboration, globalization of the School and its curricula was recommended (GH-01-Faculty). These recommendations directly pertain to this research project. Additional research and surveying of students' and employers' needs was suggested to ensure that "*we [are] training our students for the kinds of jobs they are going to get and not just what we think would be a good thing for them to know*" (GH-05-Faculty).

GH-BSHE as a degree program

The GLEPI/GEH model is not desirable to most faculty. Not only is it generally not seen as sustainable, faculty are also anxious to develop a truly "50-50" joint degree. They suggested learning lessons from the structure of dual degrees and developing a more deliberate process for creating any future cross-departmental degree programs. This would involve students meeting the admissions criteria of both departments (like the GLEPI program does); both departments having some administrative involvement with students; and setting up requirements to ensure truly interdisciplinary training. Admissions criteria would include a commitment to global health, which is part of the current criteria for both GH and GLEPI students (GH-01-Faculty).

The main concern, then, is what those required courses would be and how to ensure that students are able to meet all the requirements in their two years at RSPH. Students would have less leeway to choose electives and it would be critical to have a mechanism in place to ensure

they could successfully register for required classes in both departments (BSHE-02-Faculty). Simply changing the core GH requirement from GH500 (for non-GH students) to GH501 (for GH students) as is the case for GLEPI and GEH would not be satisfactory. It would not lay a good enough foundation for global work, nor would it be worth the effort required to develop a new program. It would be necessary to have a vision of what the new program is intending to achieve, as well as, potentially, an employer survey to determine what gap in RSPH's training of students this program would fill (BSHE-01-Faculty, GH-05-Faculty).

Faculty members', students' and alumni's ideas about curriculum are generally aligned. Faculty would prioritize research methodology, including M&E, and survey design, as well as theory, socio-cultural determinants of health and communication, some content courses and a cultural adaptation approach. This could mean fulfilling the "GH core" of GH501 and GH542 plus one additional GH course and having three required BSHE courses. Student course suggestions included the two core GH courses, M&E from GH or Evaluation from BSHE, qualitative methods, community needs assessment and curriculum development. Survey development was also suggested, as were health communication, tool validation and grant writing/ proposal development. Whatever the structure of the degree, it should have a unifying focus to avoid a vague "free for all" feel (GH-02-Faculty).

Some students are proponents of having a less balanced distribution of courses. For some, this means following the current GLEPI/ GEH model that faculty are keen to avoid. Others would see students not "tracking" in either department, but rather taking an alternative "middle path" in BSHE that combines some elements of HE and BS and, like current GEH and GLEPI students, not having a GH concentration. One student supported having GH-BSHE students be

able to take the two-credit BSHE requirement for epidemiology rather than the four credit-option required by the GH degree (GH-01-Student).

Rather than simply mixing courses from the two departments, students and faculty suggested having opportunities that would weave together competencies and perspectives from both sides. This could be a course, a journal club or another non-credit option (GH-05-Faculty). This component would ensure that the degree has a unique purpose beyond the current separate degree programs. A practice-based piece might also fulfill this role, such as that currently provided to Coverdell Fellows in the Clarkston-Rollins Connection (ClaRC) program. This program engages students in community-based education, programming and training. A student who is a current participant strongly advocated for ClaRC to be part of any future GH-BSHE program. As he envisioned it, it would provide training and "*contextual know-how to engage diverse and underserved populations, populations who are vulnerable and populations who are not us*" (BSHE-03-Student). Students would also have the potential to use their experiences to inform their theses, capstones or special study projects.

Faculty supported the joint-degree option to strengthen ties and collaboration between the departments and allow students access to a broader range of courses than they may currently have access to. This is a larger concern for GH students, who often are not able to successfully enroll in capped BSHE courses, while BSHE students generally have no trouble taking GH courses (GH-06-Faculty). It would also serve both departments to look closely at the competencies that currently exist and ensure that they are strong both for the individual departments' programs but also for any potential new interdepartmental program. Several interviewees in favor of this development pointed out that it might make RSPH more competitive compared to other schools, since they knew of few, if any, that had such degree options.

Alternatives to a GH-BSHE degree: concentrations

Rather than developing a full new degree program, another option could be a global health concentration available to students outside the HDGH. Students could get, for example, an MPH in BSHE with a GH concentration. Such a concentration might entail taking all the core departmental requirements (for either BS or HE in BSHE), as well as an additional set of GH requirements that would make up the concentration.

This could be achieved by having one section of each of the core BSHE courses taught with a more global perspective, by faculty from either department. In this case, if the course included a partnership with a community-based organization, the class would partner with an organization targeting a more international population than is currently the case. Community partners could be based in Atlanta, as they currently are. A student suggested that such courses and need for community partners beyond Atlanta could also be developed through current and future faculty's research projects and interests and student Summer Field Experiences (SFEs). These partnerships could also lead to SFE projects and stronger partnerships between RSPH and organizations around the globe. Although the communication required to achieve class objectives and complete projects would have to take a different form from the current format of in-person interviews, this would model the reality of global work and provide some of the intercultural training so many students, particularly those from the BSHE Department, desire (BSHE-04-Student). One problem with this model, aside from finding and connecting with these organizations, would be logistical challenges for faculty (and students) and the potentially large number of additional hours needed to manage this type of community partnership (GH-05-Faculty).

Students may alternatively want more exposure to the BSHE paradigms and training while receiving a degree from the HDGH. For them, a BSHE concentration could involve either an

additional fifth thematic concentration in the HDGH, the revision of the Community Health and Development (CHD) concentration or a complete restructuring of the current HDGH offerings resulting in more methodological concentrations instead of the current largely thematic ones. Some interviewees expressed concern that adding a behavioral concentration would overlap too much with the CHD concentration and that the GH offerings are already very broad: this would only add confusion about what a GH degree really meant (GH-01-Student). A revision of the CHD concentration may be a better option. It could offer more of the courses that students in the HDGH do not get access to in BSHE, while having "a different flavor" from those offered by the BSHE Department. For example, a community needs assessment course in the CHD concentration might tackle issues of adjusting methods based on health literacy, dealing with language barriers and working with informal communities (GH-05-Faculty).

The third concentration-related option would involve an overhaul of the way in which the concentrations are designed, resulting in a shift from a thematic focus to a methodological one and, potentially, the disappearance of the GLEPI and GEH programs. In this case, one design might have all students in the HDGH take a first year of coursework together, developing the skills that the Department designates as "core" (language of global health, cultural humility, research-based skills) and splitting into more epidemiological, environmental health, behavioral science, health education or "general GH" tracks their second year. This would ensure a stronger foundation of GH skills for all students who have the "global" in the name of their degrees (GH-07-Faculty). Even without removing the GLEPI and GEH programs, more than one faculty member supported the idea of methodological rather than thematic concentrations, which might allow for a more behavioral/education-focused option.

The restructuring of the HDGH concentrations would not address the needs of BSHE students. Further if one reason for developing new interdisciplinary programs is to increase RSPH's competitiveness, these options would not necessarily have the desired effect. Lastly, before the founding of the HDGH, students did receive optional global health training through a global concentration or certificate. Returning to this system would not only cause RSPH to lose certain elements that make it stand out from the competition: it could also feel like taking a step backwards rather than moving forward.

Alternatives to a GH-BSHE degree: certificate program

Some students and faculty suggested that a global certificate taken by students in any department to complement their discipline-specific MPH would be a desirable alternative to a new program, and possibly also to GLEPI and GEH. This certificate could ensure a stronger global health foundation for students and an opportunity for new courses addressing the global application of other public health disciplines. It could also reduce some of the administrative and student service concerns associated with a new interdepartmental program. As for a concentration option, there was a strong sense that a course exploring the application of each discipline globally would be important for any certificate. Other certificate options mentioned included a health education/ health communication certificate or one specifically in global health education/ behavioral health.

Not everyone was supportive of the development of a new certificate program, pointing out that there are already many options, some of which attract few students. One concern with a certificate program is that, especially for BSHE students, it is already difficult to find the time to

take attractive elective courses and that the certificate ends up limiting that even further. In fact, this was the reason given by most students and alumni for not pursuing a certificate.

Alternatives to a GH-BSHE degree: course offerings

Lastly, individuals had suggestions of specific courses or changes to currently offered courses that could be taken to ensure that students with interests across the two departments were able to build a stronger interdisciplinary approach to public health while at RSPH. These were suggested for the BSHE Department, the HDGH and RSPH as a whole.

Having BSHE courses engage with more global stakeholders as described under "*Alternatives to a GH-BSHE degree: certificates"* would also be an option. With most faculty in BSHE focusing on domestic work and domestic populations, allowing students to choose to fulfill some of their requirements in the HDGH through equivalent courses would also help to provide that additional dimension. One BSHE student had successfully petitioned his department to allow him to take the GH M&E course instead of the BSHE Evaluation class and he suggested it would be helpful if a clear process were available for future students interested in this option (BSHE-03-Student). This would require the departments to look closely at course competencies to ensure that those courses are really equivalent (GH-05-Faculty). More purposefully including a global dimension to courses that discuss theoretical frameworks and the history of public health could also address this issue (BSHE-03-Student).

The clear explanation of equivalent courses would also serve the GH students, although the more common problem for them at present is running into enrolment caps for BSHE classes (GH-03-Faculty). Ensuring that all interested students can access the skills classes they need would involve duplication of courses and human resources. Having courses that cover similar

topics to BSHE courses (community needs assessment, health education and curriculum development) but are offered by HDGH faculty, with a global lens and a global application of frameworks would help with this issue. BSHE students and GH students who are not interested in working globally or want a domestic focus in the class would enroll in the BSHE-offered option, while those wishing for a global perspective would enroll in the GH option (BSHE-04-Student). While the inclusion of a greater global focus in BSHE courses would require the BSHE Department to hire more globally-oriented faculty, this second solution would put more emphasis on hiring experts in health education and needs assessment in the HDGH.

Students, faculty and alumni suggested adding a discussion of behavioral theories in the core GH courses or offering other courses dealing with behavior change. They also advocated for classes in international health communication, more community transformation, community-based participatory research and capacity building, a mixed methods course combining qualitative, quantitative and survey research methods, and program development. Working with the Master's in Development Practice (MDP) program to allow RSPH students to take classes they offer might address some of those student needs outside RSPH (GH-06-Faculty).

Regardless of the direction pursued, the name of the program will, it seems, be important. For a certificate, the name would need to be clear but attractive, while a degree program would need to reflect the balance between its disciplinary components. For example, "global BSHE" would imply an even balance of the two disciplines, while "BSHE with a global concentration" would suggest a stronger emphasis on the degree with a side helping of the concentration (GH-04-Faculty).

Lastly, some of these discussions, it was suggested, might be politically difficult as they would call into question the existence of the HDGH and its MPH offering. As mentioned earlier, the "concentrations model" recalls the days of International Health concentrations (GH-04-Faculty). With the development of GH concentrations, students might choose to focus their MPHs in other departments and select a GH concentration rather than getting an MPH from the HDGH. In this case, the HDGH would have less of a reason to exist, which was worrying to some interviewees, both faculty and student. In one model, the HDGH faculty and courses might eventually be absorbed by the other five departments. The globally- oriented faculty, now attached to other departments, would mentor globally-inclined students and teach a core of GH courses that would then make up the global health concentration (GH-06-Faculty). This would likely be a disservice to students and to the school, since many students and alumni found the presence of the HDGH a strong reason for applying to and eventually attending RSPH.

V- Discussion

RSPH offers degrees in GH and in BSHE at the MPH level. Students with interests in GH as well as Epidemiology or Environmental Health are able to enroll in programs of study that combine the two relevant sets of competencies. There is no official structured academic program that enables RSPH students to pursue both BSHE and GH competencies in an integrated fashion. Personal experience and anecdotal evidence indicated that such a program might be attractive to RSPH students. This project aimed to understand the perspectives of faculty, students and alumni on the current degree options for students interested in careers at the intersection of global health and behavioral sciences and health education. Additionally, this project sought out their perceptions on the potential development of a more structured academic program that would meet the needs of these individuals. Through interviews and surveys, a diverse range of perspectives was collected and integrated to develop recommendations on ways that RSPH could take steps to improve the academic experience of the students with these interdisciplinary interests, both in the short term and in the long term.

Perception of RSPH degrees and post-RSPH careers

Surveys revealed that a majority of students and alumni felt their degrees prepared them well for the careers they anticipated having or already had. Students' intended careers include those in the fields of M&E, health education, data management and analysis, behavioral work and epidemiology. Alumni do report engaging in these fields professionally, although program development and research are also common post-graduation.

Students in Global Health generally intend to work with non-US populations after graduation, although this does not always translate into a global career. A significant group of

BSHE students also intend to engage in work beyond the borders of US and mainstream US populations. Only a small minority of BSHE students and alumni report no interest in engaging with non-US populations in their current or future work.

Interviews with faculty and students further emphasized that there is no typical post-RSPH career, with students engaging in work across all fields of public health and in a wide variety of organizations of diverse types, from local health departments to international non-governmental organizations (INGOs). Further, faculty explained that many global health students would likely end up doing less work outside the US borders than originally anticipated. Additionally, it was clear from interviews that students would need skills that enabled them to contribute to public health work as managers, program developers and implementers as well as researchers. Interestingly, faculty interviewees strongly emphasized the importance of promoting interpersonal and management-type skills in addition to more traditional public health skills.

Students, faculty and alumni almost uniformly pointed to the dearth of programming-related training at RSPH, however, over half of alumni in both departments indicated that their current work incorporated program development responsibilities. This is an imbalance that is not serving students' best interests and may be contributing to some students' dissatisfaction with their degrees, as several reported expecting better training in this area of public health.

To ensure that RSPH MPH graduates are competitive in today's field of public health, it is crucial that GH and BSHE students be armed with strong skills in program development and implementation, as well as research. Additionally, preparing students in programs outside the HDGH, such as BSHE, to work with non-domestic populations is likely to benefit them professionally. Training well-rounded internationally competent public health professionals will also reflect strongly on RSPH, an important point when graduate school rankings are driven by

student and faculty reviews and potential employers and alumni can be powerful in talking up RSPH's reputation.

Perception of RSPH

Interviews with students and alumni showed that RSPH's ranking was a strong influencing factor when they chose which schools to apply to and subsequently attend. The HDGH's thematic concentrations and strong commitment to global health and global opportunities for students also stood out, specifically the Global Field Experience fund. As expected, faculty and the public health environment of Atlanta were also motivating factors.

RSPH stood out against other Schools of Public Health because of its dedicated Global Health Department. Additionally, its relaxed atmosphere and its integrated programs were characterized as training students to approach public health from a global perspective and to apply this perspective to their department-specific set of skills. In comparison, Johns Hopkins was seen to be too competitive and uncooperative and University of Michigan's programs were not global enough. It seems that Columbia's new MPH was RSPH's biggest competitor for students, with its strong commitment to interdisciplinary training and possibly stronger global orientation than RSPH. However, one concern about this program was that, compared to RSPH, it might silo students too much into specific thematic interests. This is important to consider when investigating ways to move forward in the development of new academic options for RSPH. If Columbia's interdisciplinary MPH design is one of its draws for students, RSPH would benefit from offering more such options to its students.

When looking for global programs, students also considered UNC and Johns Hopkins. At UNC, there is an obvious focus on the "global", from the name of the school to the emphasis

placed on opportunities available to students outside the US. It is possible that the reality is that UNC's curriculum is more domestically focus than it appears on paper. RSPH's commitment to global health is also clear to applicants, due to the fact that it is one of the few schools of public health to have a dedicated Department. However, a student deciding which school to attend can only rely on the way programs are presented, regardless of how global they are in practice. When weighing UNC's global emphasis against RSPH's, the existence of the HDGH alone may not be enough to sway a student who is committed to doing global work towards RSPH. In the case of a student wishing to develop skills in behavioral sciences or health education with a global perspective and not knowing about the flexibility of the RSPH (and HDGH) curriculum, UNC may seem like a better choice. As faculty speculated, students with this combination of academic and professional interests may also be drawn to Hopkins' International Health MSPH degree in Social and Behavioral Interventions or an MPH degree in Social and Behavioral Sciences in Public Health with a Global Health Certificate.

A distinguishing characteristic of RSPH is that it provides a strong global perspective, which is already part of what draws students. Rather than focusing on this as its strength, the School's focus should be on providing degree options that are not available, or at least not clearly available, at other competing schools. My personal experience while developing this research project has been that navigating other schools' websites to find information about interdisciplinary programs was very time-consuming. In addition, faculty, alumni and students who were interviewed were not all aware of other schools' interdisciplinary options. Trying to clearly appeal to students whose interests are not siloed is an important part of continuing to build RSPH's unique brand. Combined programs could sway prospective students who are on

the fence about where to apply and where they will get the training they feel they want from their MPH.

Perception of a GH-BSHE degree

A majority of survey respondents among alumni and students would have either applied for or considered applying for a combined GH-BSHE degree, had it been offered when they were applying for their MPH degrees. Almost one quarter of respondents claimed they would have applied for a GH-BSHE degree rather than the BSHE, GH or other degree they had selected. A majority of students and alumni also supported the development of a GH-BSHE degree, with an additional group unsure about their perception of this degree.

Interviews provided more nuanced perspectives on the potential of an additional degree program and brought up a variety of considerations that could affect the development of any new program. These considerations pointed to a clear need to balance the need for a range of courses and opportunities for students with the rational distribution of human and financial resources. Offering more courses in both the HDGH and the BSHE Department would fill current gaps in course options and ensure that all students could access all the classes they wanted and the skills they deemed necessary for their planned career paths. To fully train students in the skills they need, such classes should incorporate education in program implementation, cultural competence, health education, community needs assessment, grant writing, mixed methods research, social and behavior change, theoretical bases of program development and health communication. However, realistic human resources constraints need to be taken into account. Faculty's responsibilities currently include mentoring and thesis chairing in addition to their expected load of teaching and research. Faculty energy must be directed towards projects that

produce maximum benefit both to their Departments and to the students attending RSPH. Students currently point to adding classes and increasing class enrollment for certain "skills-focused classes" as a simple solution that would allow all interested students to be exposed to these skillsets. In reality, while there may be theoretical demand for specific classes (either currently offered or new ones), the actual enrollment numbers if these classes were to be offered may not be as high as expected. Because of the need to balance student demands and realistic human resource constraints, these are not the easy, straightforward answers to the perceived gaps in student training.

The general lack of opposition to the development of a new GH-BSHE program did come with some caveats and some strong advice. While students suggested modeling the program after the currently offered GLEPI and GEH degrees, almost all interviewed faculty expressed dissatisfaction with this model. These current cross-department programs are seen as not providing enough grounding in key global health concepts or enough synthesis of the skills acquired from each department. Taking a page from the development of dual-degree programs such as the MBA/MPH, MDiv/MPH or MD/MPH could lead to a stronger program that would effectively train students in competencies from both Departments. For dual degrees, both schools have a basic set of competencies that they expect their students to achieve before they receive a degree. A student completing an MBA/MPH should meet all the core requirements for the MBA program, as well as for the MPH. Following this model, a student getting a joint degree at RSPH would be expected to complete all the core competencies from the two departments conferring the degree. Additionally, since the clearly laid out skillset of the BSHE program drew several students who were initially undecided between GH and BSHE, an integrated program may need to maintain a well-defined structure that would guide students to the competencies they would

need. The flexibility of the GH degree may not work for students who have a specific global interest in behavioral sciences/ health education and want more guidance. Regardless of the model that is followed, specific measurable program outcomes to facilitate evaluation, as well as deliberately planned competencies and requirements will be crucial. It was also strongly recommended that an employer survey be conducted to quantify the level of demand for graduates with the skillset students following a GH-BSHE curriculum would develop.

VI- Recommendations

Thoughtfully developing a new academic program would entail an investment of human and financial resources, require dialogue at different levels of the School's administration, and need strong leadership. With this in mind, other suggestions that would strengthen RSPH's programs and improve students' satisfaction and experience were made. These recommendations are presented as short-term, medium-term/ medium-commitment and long-term suggestions.

Short-term recommendations for the HDGH

- GH courses could benefit from more grounding in behavioral and behavior change theories. Having a stronger understanding of theoretical constructs that underlie behavior than is taught in the required BSHE 500 course will enable students interested in behavior change work to better understand the evidence base for program development. Exposing students to these ideas through existing introductory classes would not require the HDGH to offer additional classes and all GH students would receive the same basic exposure to theories. Specific courses which could include this component include the HDGH core of GH 501 and GH 542. M&E classes (GH 560 and GH 565) and survey methods (GH 502), which require some understanding of behavior change and conceptual frameworks, could also highlight the importance of understanding behavioral theories. Communicating for Healthy Behavior and Social Change (GH 514) already introduces necessary theoretical concepts. However, including theories only in elective courses does not ensure that all students will be exposed to them. It is important for students to receive at least foundational training in these theories, when we consider that many past public health

interventions have not been effective at least partly because they were not based on a thorough understanding of the factors that motivate behavior and behavior change.

- Although the GFE opportunities are available to students across the School, many students outside the HDGH report being unclear about their eligibility to access these. A more deliberate effort to advertise the Global Opportunities Fair and to reach out to students in other departments would help both students and organizations looking for competent, dedicated workers. In connection with this, interested students from all departments should be aware that they have the opportunity to register for GH 555, Proposal Development, which prepares students for submission of their proposal for GFE funding. Increasing the enrollment cap for this class or offering another section could also be beneficial since, currently, GH, GEH and GLEPI students have priority and the course may fill up before other departments' students have a chance to enroll.

Short-term recommendations for the BSHE Department

- The BSHE Department should include a global component to their core courses, including History of Public Health (BSHE 579) and Theory in Behavioral Sciences and Health Education (BSHE 520). This will expose all students to the application of theories, practice and developments in public health outside the borders of the US. Even students who do not intend to engage in practice with non-domestic populations need to understand the limitations of certain behavioral theories when they are applied to non-Western populations for whom they were not developed and tested and to have some awareness of public health issues affecting these populations. This will help students to develop a more holistic understanding of the world of public health and, for those who

eventually work with non-domestic populations, will enhance their training with an awareness of the need to consider cultural context. Although GH500 introduces students to many of these concepts, this course is aimed at students from all disciplines. Including a global component within BSHE courses would ensure that BSHE students are learning discipline-relevant global health competencies that complement their other training.

Short- term recommendation for both Departments and RSPH

- Both Departments (and other RSPH Departments) should engage in the assessment of the competencies of their core courses and determine which classes in other departments could be considered equivalents and therefore taken by students to fulfill their departmental requirements. Although students know that they can take courses outside their departments, it is not always clear which ones will count toward their degree requirements. Having a systematic review of these courses will help the departments and the students better understand what options are available. This may also help the Departments decide where to focus human resources. For example, the HDGH and the BSHE Department and the HPM Department all offer several sections of qualitative research methods courses.
- In tandem with understanding which courses are fulfilling similar competencies in other departments, the School or its departments should develop a process for students to identify and petition to take classes that are not in their home department to fulfill their requirements. This would, for example, assist a BSHE student wishing to take the HDGH M&E course instead of the BSHE Conduct of Evaluation Research class or a GH student wishing to do the reverse. Although students are free to take these classes as electives, it

is not always clear that they can take them in place of their traditional departmental core classes. A clear process for petitioning to take a core in another department would make the task less daunting for students and allow more interdepartmental exchange of ideas.

Medium-term recommendations for the HDGH (Resources permitting)

- The HDGH should offer a needs assessment and/ or community engagement course that addresses barriers to research and programming in low-resource contexts, as well as ways to adjust projects and methods depending on literacy and availability of financial and human resources. One interviewed faculty member expressed interest in teaching such a course. An HDGH curriculum development course with a global perspective would also be a very valuable course option, with the current demand for BSHE courses so high and the enrollment caps so low.
- The Department could offer a grant-writing course that is not GFE-oriented (in addition to GH 555). Exposure to grant writing beyond a personal project and to grant writing styles for different organizations will fill a gap in many HDGH students' training. Additionally, students not intending to apply for GFE funding tend not to take this course. Although grant-writing courses are offered to BSHE students, they regularly do not have space for students outside the Department.
- One of the aspects of BSHE courses that GH students felt was missing from their training was community-engaged projects. Only a few HDGH courses include engagement with a community partner. Connecting classes with local partners who work with international populations or international partners would help students put theories into practice and better grasp the concepts they learn in the classroom, as BSHE students are able to do.

Possibilities for doing this would include the CLaRC program, existing faculty-community partnerships such as Lifting Latina Voices Initiative and Ventanilla de Salud and faculty-led projects outside the borders of the US. These partnerships could be developed or perpetuated by students as part of their GFE projects.

- The current Community Health and Development (CHD) concentration is the least well-defined concentration offered by the HDGH. GH students who are interested in gaining skills that might fall into a GH-BSHE degree but have no specific thematic interest in the other concentrations are likely to select this track. Revising the purpose of this track, its requirements and whether it is fulfilling the needs of its students would be beneficial to the HDGH. If increasing numbers of students arriving at RSPH are interested in programming-related skills, reframing this track to provide those specific skills and offering related courses could provide a simpler answer than a new academic program.
- The HDGH could offer more courses that combine methodological training with a focus on a specific topic of interest. One such course, GH 547, Issues in Sexual and Reproductive Health, combines training in data quality assessment, data analysis and the development of data-driven recommendation with training in the main topics of concern for SRH professionals. Marrying the public health issue students are interested in with a thorough methodological grounding is ideal, not only to retain students' attention, but also to ensure that they are exposed to both depth and breadth in their area of interest and do not have to sacrifice one for the other during their relatively short training.
- Whether a new program is developed or not, several faculty members recommended an evaluation of the current competencies and the current program offerings to assess their success, based on specific, to-be-determined, criteria.

Medium-term recommendations for the BSHE Department (Resources permitting)

- Since some BSHE students are interested in practicing public health beyond purely domestic populations, offering BSHE courses that allow students to engage with community partners that are not only focused on local populations could be beneficial. Although logistical barriers exist that might limit the list of possible organizations, Atlanta's immigrant and refugee population and associated organizations may yield potential transnational groups that students could engage with. Having one such partner for community-engaged courses like Community Needs Assessment (BSHE 524), Conduct of Evaluation Research (BSHE 530), Grant Proposal Writing (BSHE 569) and Principles of Curriculum and Instruction in Health Education (BSHE 522) would enable globally inclined students to develop skills in cultural competence and the adaptation of theories further and with a wider variety of stakeholders.
- Beyond having one "global" project or stakeholder per class, having one section of each required course that is more focused on global applications of theories and concepts would be beneficial. Naturally, ensuring this global dimension to these curricula would involve more intentional commitment to training students to work with international populations and may not be reasonable with the Department's current faculty make up. However, it could also prove beneficial to invest time and effort in this if there are significant numbers of BSHE students who desire this perspective.

Medium-term recommendations for RSPH

- Since there are certain skills that all MPH graduates will need to have in order to function successfully in the world of public health, the School should consider offering these as non-departmental school-wide courses. Grant writing, business skills, interpersonal communication, cultural awareness and contextual adaptation of interventions could be offered this way, as either seminar classes or short weekend courses that carry either one or no credits. Not only would this ensure that all students have access to the classes, it would increase the flexibility of the curriculum in a way that is not done at other schools.
- An employer needs assessment would also benefit RSPH. Knowing what skills employers seek and value from the graduates they hire from RSPH and other schools of public health will help RSPH ensure that the professional training it provides is in line with the training expected of students in the field. Results from such a study will help in adjusting curricula as needed. It could also be a strong recruitment tool showing prospective students that the School takes its commitment to its students' success seriously and is training them to be successful professionals.

Long-term recommendation for the HDGH

- Although the thematic concentrations at RSPH are attractive to students, one concern many students and faculty have is that these concentrations may suggest that individuals' interests and HDGH training are siloed. It would be valuable to rethink the current concentrations in the HDGH and potentially adjust them to be more methodologically driven. Each concentration currently has one clear "methods" requirement, which could help to identify its new methodology focus: ID would become surveillance-focused, CHD

M&E- and community-engagement-focused and SRHPS data- and demography-focused. Nutrition already has a specific set of methods that go with its topic-based training. Combining the thematic content and methodology of the tracks would capitalize on the appeal of being able to choose a topic to focus on (like at Columbia) without being siloed and without fear of having to sacrifice strong training in skills.

- Developing a certificate in Global Health that is offered to students across the School, would enable students outside the HDGH to access a more global perspective. This is currently done by University of Michigan and Johns Hopkins, as well as Columbia, although the latter's program is very competitive and binding. This certificate could include an international practicum component as Columbia's does.

Global BSHE recommendation

- Investing time and effort in the development of a GH-BSHE program is also a clear option. This would require starting with a small cohort of students and focusing on integrating currently available classes. This new cohort and their experience could be monitored and used as a pilot program. Feedback from this would help to further refine courses and requirements. As mentioned earlier, following the current GLEPI and GEH models is undesirable to faculty. A dialogue between the two departments to determine core courses, admission requirements, the name of the program and the administrative responsibilities thereof would be needed before the program's inception. Student and alumni suggestions of courses and skills to prioritize can also inform curriculum decisions.

From this study, suggestions for its development include:

- Admission of students by both the HDGH and the BSHE Department
- A balanced number of credits/ classes from both Departments
    - Suggested: GH 501 and 542, as well as 1 more GH-determined course or elective + 3 foundational courses from the current BSHE core (in addition to the RSPH MPH requirements)
    - Option: EPI 504 (2-credits) instead of EPI 530 (4-credits), a choice given to BSHE students
- One course that combines elements of the two disciplines, emphasizing the global application of behavioral and health education theories
- A choice of BS or HE track in the BSHE Department
- No thematic concentration in the HDGH
- A program- specific GH-BSHE ADAP
- A “catchy” name

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Appendix A – MPH Program Competencies

Emory's Rollins School of Public Health (RSPH)

MPH in Global Health Competencies ("Clifton Notes for MPH/MSPH Students, 2013-2014 Academic Year," 2013):

Upon completion of the MPH, the graduate will be able to:

1. Assess the major forces that influence the health of populations around the world
2. Critique major global priorities and the reasons for their prioritization
3. Critique the evidence for improving health delivery systems and health status of individuals, communities and populations around the world
4. Design programs, policies and/or interventions intended to improve health services and health status of individuals, communities, and populations
5. Conduct research, including formulation of specific research aim, conducting a literature review and formulating a hypothesis and selecting appropriate methodologies related to the emphasis.
6. Compose a written scientific thesis that is consistent with department guidelines and relevant writing style sources
7. Present the key methods, findings and public health implications of research on a poster and verbally communicate to an audience of public health professionals

MPH in Behavioral Sciences and Health Education (BSHE) Competencies ("Clifton Notes for MPH/MSPH Students, 2013-2014 Academic Year," 2013):

Upon completion of the MPH, the graduate will be able to:

1. Communicate in both written and oral format with public health programs, community-based organizations, and others involved in improving the public's health
2. Conduct public health practices including needs assessment and/ or evaluations of public health programs
3. Provide critical analysis of the lessons to be learned from the past and present

Additionally, students pursuing the Behavioral Sciences (BS) track will be able to:

4. Design observational and intervention studies in critical public health areas using quantitative and qualitative research methods
5. Apply social and behavioral science theory in public health research and practice
6. Implement research protocols and programs employing behavioral sciences
7. Evaluate research theory and findings in a manner that effectively informs public health policy and programs
8. Disseminate research theory and findings in a manner that effectively informs public health policy and programs
9. Promote the adoption and integration of ethical behavioral science research methods and findings into a unified public health practice
10. Conduct original research on the social determinants of health risks

Students who pursue the Health Education (HE) track will also learn how to:

4. Assess individual and community needs for health education
5. Plan effective health education programs
6. Implement effective health education programs
7. Evaluate the effectiveness of health education programs
8. Coordinate the provision of health education services
9. Act as a resource person in health education
10. Communicate health education needs, concerns and resources
11. Apply appropriate research principles and methods in health education
12. Advance the profession of public health

MPH in Global Epidemiology (GLEPI) Competencies ("Global EPI MPH," 2014):

Upon completion of the MPH degree, the graduate will be able to:

1. Describe public health problems in terms of magnitude, time, place, person and their associated risk factors
2. Identify principles and limitations of epidemiologic screening programs
3. Identify major epidemiologic problems of importance
4. Describe major global health priorities and the reasons for their prioritization
5. Critique the evidence for improving health delivery systems and health status of individuals, communities and populations around the world
6. Design programs, policies, and/or interventions intended to improve health services and health status of individuals, communities and populations
7. Critique major global priorities and the reason for their prioritization
8. Identify key sources of data for epidemiologic purposes
9. Formulate a research question
10. Differentiate between descriptive and analytic epidemiologic methods
11. Critically evaluate the strengths and weaknesses of different study designs with respect to a given research question
12. Calculate basic epidemiologic measures
13. Implement methods of data cleaning and documentation for epidemiologic data sets
14. Conduct basic epidemiologic analyses using linear, logistic, Cox and Poisson regression
15. Fit epidemiologic models
16. Interpret epidemiologic results in a causal framework
17. Evaluate the strengths and weaknesses of the epidemiologic literature
18. Utilize information technology tools and statistical programming packages in preparing scientific reports
19. Communicate epidemiologic information in a scientific report
20. Communicate the key methods, findings, and public health implications of research on a poster and verbally to an audience of public health professionals
21. Recognize potential ethical and legal issues in epidemiologic studies
22. Assess the major forces that influence the health of populations around the world

MPH in Global Environmental Health (GEH) Competencies ("Clifton Notes for MPH/MSPH Students, 2013-2014 Academic Year," 2013)*:*

Upon completion of the MPH degree, the graduate will be able to:

1. Describe major environmental risks to human health ranging from the local to global scale
2. Assess the sources and movement of contaminants through the environment
3. Characterize the magnitude, frequency, and duration of environmental exposures
4. Apply the principles of epidemiology to assess health effects of environmental exposures
5. Apply the principles of toxicology to assess health effects of environmental exposures
6. Appraise the environmental, behavioral and social factors that contribute to the emergence, re-emergence, and persistence of infectious diseases
7. Assess the major forces that influence the health of populations around the world.
8. Critique major global priorities and the reasons for their prioritization.
9. Design environmental health programs, policies, interventions and/or research intended to improve the health of individuals, communities, and populations
10. Communicate the key methods, findings and public health implications of research on a poster and verbally to an audience of public health professionals

Johns Hopkins' Bloomberg School of Public Health (JHSPH)

MPH in Social & Behavioral Sciences in Public Health (SBS) Competencies ("MPH Concentration in Social & Behavioral Sciences in Public Health," 2014):

1. Theoretical basis of social and behavioral intervention and psychosocial influences on health and illness. These theories have implications for behavioral interventions and understanding psychosocial influences on health and social policies that affect health.
    i. Identify social and psychological factors and processes in the etiology of disease and health related behaviors
    ii. Articulate the influence of major social structural divisions such as gender, SES, and ethnicity on health and health related behaviors
    iii. Appropriately select and apply behavioral science theories to studying health problems in diverse populations

2. Social and behavioral intervention design and implementation.
    i. Apply principles from educational, behavioral, communication, social and psychological theory to influence health related behaviors and health status in diverse populations
    ii. Utilize effective needs assessment and program planning skills to design health-promoting programs and policies
    iii. Implement a wide array of intervention strategies, including media-based (mass media, small media, electronic media), interpersonal communication, social support and social network-based interventions, advocacy and community organizing
    iv. Articulate and address issues that facilitate implementation and sustainability of effective behavior-change programs

3. Social and behavioral research methods and program evaluation.
    i. Conduct process, impact, and outcome evaluations of health behavior change programs
    ii. Conduct qualitative and formative research in the social and behavioral sciences
    iii. Appropriately select and apply behavioral science research methods to studying health problems and evaluating interventions

MPH in International Health MSPH in Social and Behavioral Interventions Competencies ("Academic Guide 2014-2015 Master of Science in Public Health (MSPH), Master of Health Science (MHS)," 2014):

1. General Public Health Knowledge: Demonstrate knowledge of public health problems most pertinent to underserved populations and characterize these problems in terms of measurable health indicators.
    i. • International Health: Describe the evolution of key approaches to address major public health problems among underserved populations in lower income contexts and indicators of their impact.

ii. • Public Health Biology: Explain biologic mechanisms and/or clinical manifestations of disease(s) impacting public health.

iii. • Environmental Health: Discuss environmental influences on public health and appropriate risk assessment and public health response options.

2. Social and Behavioral Sciences: Develop the theoretical and methodological tools useful in gaining an understanding of the socio-cultural context surrounding public health in lower income contexts and to assist in the development, implementation and evaluation of social and behavioral change programs.

i. Theory and Practice: Describe the relevance of theories and concepts drawn from anthropology, sociology and psychology in the design of effective public health interventions and formulate theory-driven social and behavioral interventions to improve the health and well-being of underserved communities.

ii. Qualitative Methods: Develop an understanding of theoretical paradigms and perspectives informing ethnography and qualitative research, and practice utilizing qualitative methods employed to assess the social context of health and inform public health action.

iii. Intervention-related Research: Conduct multi-method formative research to develop locally appropriate social and behavioral interventions to improve health. Select appropriate behavior change and communication intervention approaches for different contexts, and describe the steps in their implementation.

3. Epidemiology and Biostatistics: Develop a solid foundation in epidemiologic and statistical research and evaluation skills applicable to public health assessment and action.

University of North Carolina- Chapel Hill Gillings School of Global Public Health (Gillings)

MPH in Health Behavior Competencies ("Health Behavior Master of Public Health (MPH) Program || UNC Gillings School of Global Public Health," 2015):

1. Apply social and behavior science theory and evidence-based interventions that maintain values of social justice and respect
2. Plan, implement and evaluate public health programs and interventions
3. Utilize qualitative and quantitative research methodology and apply biostatistics
4. Understand and address social determinants of health and health disparities
5. Collaborate in diverse, cross-cultural community and organizational settings

University of Michigan-Ann Arbor School of Public Health (U-M SPH)

MPH in Health Behavior and Health Education (HBHE) Competencies ("U-M School of Public Health Health Behavior & Health Education M.P.H. Program," 2014):

Upon completion of the program, each graduate will have the ability to:

1. Describe the role and interaction of key determinants of health status from a social-ecological perspective (e.g. individual, family, organization, community, and society).
2. Describe and apply relevant theories, concepts, and models from social and behavior science that are used in public health research and practice to both understand and affect health status, health behavior, social change, and policy.
3. Describe and apply ethical principles relevant to public health research and practice.
4. Apply basic principles of research and evaluation methodology relevant to understanding and modifying health status and health behavior from a social ecological perspective (e.g. individual, family, community, and society) within and across settings and countries with varying levels of economic resources.
5. Plan, implement, and manage health education and health promotion programs across diverse settings and populations from a social-ecological perspective within and across settings and countries with varying levels of economic resources.
6. Describe and apply the knowledge and skills necessary to interact with diverse individuals and communities within and across settings and countries with varying levels of economic resources.

Columbia University Mailman School of Public Health (Columbia)

MPH in Sociomedical Sciences Competencies ("Sociomedical Sciences. MPH Program. Competencies," 2015):

1. Describe how major theories, concepts, models, and methods from the fields of medical sociology, medical anthropology, history, and health psychology can be used to address a variety of public health issues;

2. Examine public health issues from a social and behavioral sciences perspective:
    i. Discuss the relationships of social, cultural, political, economic, and behavioral factors to health and disease outcomes;
    ii. Explain social, cultural, political, economic, and behavioral determinants of disparities in health status among population sub-groups and related public health responses;
    iii. Distinguish a population-wide public health perspective from individual and clinical perspectives regarding determinants of health status and related responses; and
    iv. Identify individual, organizational, and community concerns, assets, resources, and deficits for social and behavioral science interventions.

3. Analyze public health issues from the perspective of at least one of the following fields of study:
    i. Explain how medical sociology examines the multiple paths by which social class (SES), ethnicity/race, gender, and organizational structure leads to states of good and poor health;
    ii. Explain how medical anthropology examines the relationship between culture and health as well as the cultural constructions of health and illness;
    iii. Explain how history examines the relationship among biological, social, political, and economic factors in the creation of health and the political response to health issues; or
    iv. Explain how health psychology examines behavioral, cognitive and emotional factors and their relationship to health.

4. Analyze public health problems by selecting and employing appropriate research methodology from the social and behavioral sciences:
    i. Collect appropriate data to understand determinants of health and disease;
    ii. Apply appropriate social indicators to describe population health;
    iii. Assess strengths and limitations of various sources of data;
    iv. Assess strengths and limitations of various approaches to research and
    v. Apply evidence-based approaches in the development and evaluation of social and behavioral science interventions.

5. Discuss public health research and practice issues from an ethical perspective:
    i. Discuss historical and emerging ethical issues;

   ii. Identify critical stakeholders for the planning, implementation, and evaluation of public health programs, policies, and interventions;
   iii. Discuss principles and requirements for the protection of human subjects in public health research;
   iv. Promote standards of personal and organizational integrity, compassion, honesty, and respect for all people;
   v. Apply ethical principles to public health program planning, implementation, and evaluation; and
   vi. Develop public health programs and strategies responsive to the diverse cultural values and traditions of the communities being served.

6. Demonstrate proficiency in written, oral and visual communication skills for the purpose of:
   i. Communicating research and program findings into action oriented recommendations; and
   ii. Reporting findings in a manner useful for informing a variety of audiences about health issues.

Global Health Certificate Competencies ("Global Health," 2015):

1. Improve the health of populations in low and middle income economies by making effective decisions guided by the findings of appropriately selected and interpreted research in epidemiology, environmental health sciences, population health, and the social and behavioral sciences
2. Advance the health of these populations through the development of soundly assessed, appropriate policies and programs
3. Communicate and collaborate effectively with individuals, communities, and institutions utilizing appropriate methods informed by the dynamics of diversity and power.

University of Washington School of Public Health (UW)

MPH in Community-Oriented Public Health Practice Competencies ("MPH in Community-Oriented Public Health Practice | UW School of Public Health," 2014):

1. Collaborate with and motivate communities and community-based organizations concerning health;
2. Act to connect a health organization with one or more communities for a variety of purposes;
3. Develop leadership skills;
4. Find, manage, and evaluate information of all kinds;
5. Work effectively in and lead, as necessary, groups and small teams of professionals;
6. Facilitate groups of people to assist them in understanding and debating issues, formulating and considering options, and making decisions;
7. Develop written communications skills;
8. Plan and prepare oral communications for meetings ranging from small groups to large conferences;
9. Think critically and assist and encourage co-workers to think critically;
10. Articulate the history and politics of community development for health;
11. Conceptualize the dynamics of cultural diversity in and between communities and demonstrate an ability to interact sensitively and effectively with persons from a variety of backgrounds;
12. Help communities identify problems and set priorities; and
13. Evaluate community development efforts.

Tulane University School of Public Health and Tropical Medicine (Tulane SPHTM)

MPH in Health Education and Communication Competencies ("Tulane University - MPH in Health Education and Communication,"):

1. Analyzing a health problem from a behavioral point of view;
2. Planning health education/communication programs for specific populations and in a variety of settings;
3. Collaborating with others in planning, implementing and evaluating programs;
4. Selecting and using appropriate and ethical health education and communication methods;
5. Coordinating health education services and providing consultation, training, and technical assistance in health education or communication;
6. Identifying, obtaining, and managing resources to implement and evaluate health education and communication programs;
7. Carrying out research and evaluation of health education and communication programs.

Additionally, students may acquire the following competencies depending on the courses they select ("Tulane University - MPH in Health Education and Communication,"):

1. Incorporate knowledge of the Public Health core areas of epidemiology, biostatistics, environmental health, health systems management, and the biological, social, and cultural aspects of health and disease in addressing and solving problems.
2. Assess individual and community needs for health education/communication.
3. Plan health education/communication strategies, interventions, and programs.
4. Implement health education/communication strategies, interventions, and programs.
5. Conduct evaluation and research related to health education/communication.
6. Administer health education/communication strategies, interventions, and programs.
7. Serve as a health education/communication resource person.
8. Communicate and advocate for health and health education.

Boston University School of Public Health (BU)

MPH in Global Health Competencies ("Global Health | SPH | Boston University," 2015):

1. Demonstrate skills in program and budget management that can be used to design and implement health programs in low- and middle-income country settings
2. Apply a multidisciplinary approach to analyze health systems and institutions involved in financing and providing preventative and curative health services at the multilateral, bilateral, national, and community levels in low- and middle-income countries
3. Integrate information and apply models from epidemiologic, economic, behavioral, and cultural perspectives to promote social changes required to improve the health of populations

MPH in Social & Behavioral Sciences Competencies ("Social & Behavioral Sciences | SPH | Boston University," 2015):

1. Access and analyze archival and other data to assess a public health problem for a specific place and population
2. Apply social and behavioral theories and quantitative and qualitative methods to the development of innovative and effective public health intervention programs
3. Develop rigorous evaluation trials to assess the efficacy of public health interventions
4. Communicate findings to the public and to policy-makers
5. Advocate for the institutionalization of evidence-based public health programs

Appendix B- HDGH Faculty INTERVIEW GUIDE

A. **Introductory Questions**
I'd like to start with a few questions about your experience in public health

1. What did you do before you taught at RSPH?
   (PROBE: practitioner? How much time at RSPH?)

2. What topic area do you work in most often in public health?
   (PROBE: policy, behavior, strictly research, program implementation…)

3. In general, how do you feel global health intersects with other areas of public health?
   (PROBE: some areas that are more "global" than others)

B. **MPH and GH skills for behavior and social change**
I'd like to talk about the types of skills you think are important for a GH student graduating from a public health school with an MPH degree and intending to work globally in a behavioral field.

4. What are the key global skills you think any student should have before they graduate with an MPH if they plan on working with transnational populations?
   (PROBE: can they learn here?)

5. What skills that the GH department does not specifically teach in its classes do you think would be important for MPH graduates wanting to work in the field of behavioral sciences and/ or health education?
   (PROBE: Specific departments? Specific classes you know? Outside class?)

C. **Student employment**
Thank you. Now, I'd like to ask you a little about post-MPH student careers

6. In your experience, what types of public health positions do RSPH GH graduates seek after graduation?
   (PROBE: area of interest, skills, program development, local, global?)

7. In the case of students seeking positions in program development and implementation relating to behavior and social change, how well do you think the currently offered GH courses and their content prepare them?
   (PROBE: if well: what courses? If not well, what additional skills do they need?)

8. If you were hiring a graduate for a position involving behavioral work with transnational populations, what skills would you place more emphasis on in your search?
   (PROBE: why? Which skills are you valuing more? Would a student trained in both be an appealing hire?)

D. **Combining GH with BSHE**

Thank you. I'd like to ask you about ways to allow students who are interested both in global and behavioral sciences and health education careers to pursue all those interests.

9. What, if any, has been your experience with BSHE students?
   (PROBE: work, classes, skills)

10. If an RSPH student were interested in pursuing a career in global behavioral or global health education work, how would you advise them to manage their interests across the 2 departments?
   (PROBE: a preferred course of study, a more important set of skills?)

11. What core GH skills would you want any student who pursues a combined GH program to acquire?
   (PROBE: currently included in GEH and GLEPI; why?)

12. What has your experience been with the GEH and GLEPI programs?
   (PROBE: positive, negative, thesis mentorship, involvement in developing)

13. How do you think offering combined degrees affects the competitiveness of RSPH compared to other schools potential applicants might consider?
   (PROBE: any specific schools in mind? Why? How?)

E. **Concluding Questions**

That's all great, thank you. I just have a couple of concluding questions

14. If a joint GH-BSHE program were offered, how would you want it to look?
   (PROBE: classes, program or certificate?, competencies, requirements, opposition?)

15. In general, how do you feel about the possibility of RSPH offering a GH-BSHE program?
   (PROBE: Why?)

16. Is there anything we haven't touched on that you'd like to talk about?

17. Is there anyone specifically that you think I should interview as part of this project?

END OF INTERVIEW

Appendix C- BSHE Faculty INTERVIEW GUIDE

A. **Introductory Questions**

I'd like to start with a few questions about your experience in public health

1. What did you do before you taught at RSPH?
   (PROBE: practitioner? How much time at RSPH?)

2. What topic area do you work in most often in public health?
   (PROBE: policy, behavior, strictly research, program implementation…)

3. In general, how do you feel global health intersects with other areas of public health?
   (PROBE: some areas that are more "global" than others)

B. **MPH and GH skills for behavior and social change**

I'd like to talk about the types of skills you think are important for a BSHE student graduating from a public health school with an MPH degree and intending to work with transnational populations in a behavioral or health education field.

4. What are the key behavioral skills you think any student should have before they graduate with an MPH if they plan on working in a behavioral field?
   (PROBE: can they learn here?)

5. What skills that the BSHE department does not specifically teach in its classes do you think would be important for MPH graduates wanting to work with transnational populations?
   (PROBE: Specific departments? Specific classes you know? Outside class?)

C. **Student employment**

Thank you. Now, I'd like to ask you a little about post-MPH student careers

6. In your experience, what types of public health positions do RSPH GH graduates seek after graduation?
   (PROBE: area of interest, skills, program development, local, global?)

7. In the case of students seeking positions working with non-domestic populations, how well do you think the currently offered BHE courses and their content prepare them?
   (PROBE: if well: what courses? If not well, what additional skills do they need?)

8. If you were hiring a graduate for a position involving behavioral work with transnational populations, what skills would you place more emphasis on in your search?
   (PROBE: why? Which skills are you valuing more? Would a student trained in both be an appealing hire?)

D. **Combining GH with BSHE**

Thank you. I'd like to ask you about ways to allow students who are interested both in global and behavioral sciences and health education careers to pursue all those interests.

9. What, if any, has been your experience with GH students?
   (PROBE: work, classes, skills)

10. If an RSPH student were interested in pursuing a career in global behavioral or global health education work, how would you advise them to manage their interests across the 2 departments?
   (PROBE: a preferred course of study, a more important set of skills?)

11. What core BSHE skills would you want any student who pursues a combined GH program to acquire?
   (PROBE: currently included in core; why?)

12. What has your experience been with the GLEPI program?
   (PROBE: positive, negative, thesis mentorship, involvement in developing)

13. How do you think offering combined degrees affects the competitiveness of RSPH compared to other schools potential applicants might consider?
   (PROBE: any specific schools in mind? Why? How?)

E. **Concluding Questions**

That's all great, thank you. I just have a couple of concluding questions

14. If a joint GH-BSHE program were offered, how would you want it to look?
   (PROBE: classes, program or certificate?, competencies, requirements, opposition?)

15. In general, how do you feel about the possibility of RSPH offering a GH-BSHE program?
   (PROBE: Why?)

16. Is there anything we haven't touched on that you'd like to talk about?

17. Is there anyone specifically that you think I should interview as part of this project?

END OF INTERVIEW

Appendix D- HDGH Department Chair INTERVIEW GUIDE

A. **Introductory Questions**
I'd like to start with a few questions about your experience at RSPH.

1. How much of your own work has been behavioral in scope?
   (PROBE: specific aspects of behavior, current or past? Any shift? Why?)

2. In general, how do you feel global health intersects with other areas of public health?
   (PROBE: some areas that are more "global" than others)

B. **MPH and GH skills for behavior and social change**
I'd like to talk about the types of skills you think are important for someone working in global health in a behavioral field.

3. In the behavioral aspects of your own work, what skills do you feel have been most important?
   (PROBE: your own skills? Your team's?)

4. What are the key behavioral skills you think any student should have before they graduate with an MPH if they plan on working in a behavioral field?
   (PROBE: can they learn here?)

5. What skills that the GH department does not specifically teach in its classes do you think would be important for MPH graduates wanting to work in the field of behavioral sciences and/ or health education?
   (PROBE: Specific departments? Specific classes you know? Outside class?)

6. What are the key global health skills you think any student should have before they graduate with an MPH if they plan on working with transnational populations?
   (PROBE: can they learn here?)

7. How important do you think it is for students outside the GH department to learn skills for global work?
   (PROBE: for specific career tracks or in general?)

C. **Feasibility considerations**
Thank you. I'd like to ask you about your perception of the feasibility of offering an additional GH-BSHE program.

8. What has your experience been with the GEH and GLEPI programs?
   (PROBE: positive, negative, thesis mentorship, process of development)

9. What core GH skills would you want any student who pursues a combined GH degree of any type to acquire?
(PROBE: why these skills?)

10. What issues do you anticipate would affect the creation of this proposed new program?
(PROBE: financial, enrollment, faculty, student interest)

11. How do you think offering combined degrees affects the competitiveness of RSPH compared to other schools potential applicants might consider?
(PROBE: any specific schools in mind? Why? How?)

E. **Concluding Questions**

That's all great, thank you. I just have a few concluding questions

12. If a joint GH-BSHE program were offered, what recommendations would you have?
(PROBE: classes, competencies, requirements, opposition?)

13. In general, how do you feel about the possibility of RSPH offering a GH-BSHE program?
(PROBE: Why?)

14. Is there anything we haven't touched on that you'd like to talk about?

15. Is there anyone else I should talk to?

END OF INTERVIEW

Appendix E- Student INTERVIEW GUIDE

A. **Introductory Questions**
I'd like to start with a few questions about your experience at RSPH.

1. What drew you to public health?
   (PROBE: past work? Future interests?

2. How did you decide to pursue a degree in GH (or BSHE)?
   (PROBE: any other program you considered?)

3. How did you choose RSPH?
   (PROBE: program, faculty, offerings…)

4. At this stage, what type of PH career do you see yourself pursuing after graduation?
   (PROBE: domestic, international, behavior, programming…)

B. **BSHE and GH skills**
I'd like to talk about the skills you are trying to learn and use during your degree.

5. What public health skills do you feel you have learned so far at RSPH?

6. What are some skills that you intend to acquire during the next year?
   (PROBE: within your department or from other departments? Epi, biostats, life or work skills)

7. What are the core skills you feel the GH (or BSHE) department teaches its students?
   (PROBE: any area? To all or to one of the 2 tracks?)

8. What skills that the GH (or BSHE) department does not specifically teach in its classes do you think would be important for you to learn before you graduate?
   (PROBE: Specific departments? Specific classes you know? Outside class?)

9. How important do you think it is for your future career to learn skills for global work that the BSHE (or skills for behavioral/ health education work that the GH) department do not specifically teach?
   (PROBE: for specific career tracks or in general? What skills?)

10. With your current degree program, how able are you to take courses to learn all the skills you feel you need in both global and behavioral sciences/ health education fields?
   (PROBE: requirements, enrollment caps, sequence of classes)

C. **Attractiveness of GH-BSHE**

Thank you. I'd like to ask you about your perception of the attractiveness of an additional GH-BSHE program.

11. When you were looking for a school, what types of programs did you consider?
    (PROBE: combined? Focused on global or behavioral/ education? Others)

12. If a GH-BSHE program had been offered at RSPH, how interested would you have been in pursuing that rather than your current degree?
    (PROBE: Why? Why not?)

13. If a program like this was offered, how would it be structured to be desirable to you?
    (PROBE: classes, requirements, skills)

E. **Concluding Questions**

That's all great, thank you. I just have a few concluding questions

14. In general, how could the 2 departments better serve students who have interests that are both globally and BSHE-focused?
    (PROBE: aside from a program- certificate?)

15. What courses or other academic options could the GH and BSHE department to satisfy students like you?

16. Is there anything we haven't touched on that you'd like to talk about?

17. Is there anyone else I should interview?

END OF INTERVIEW

Appendix F- Student SURVEY

1. What degree are you currently pursuing at RSPH?
    a. MPH from the BSHE Department (Behavioral Sciences)
    b. MPH from the BSHE Department (Health Education)
    c. MPH from the BSHE Department (combined)
    d. MPH from the GH Department (Infectious Diseases)
    e. MPH from the GH Department (Community Health and Development)
    f. MPH from the GH Department (Sexual and Reproductive Health and Population Studies)
    g. MPH from the GH Department (Public Nutrition)

2. What areas of public health are you planning to work in after you receive your MPH?
    a. Education
    b. Research
    c. Program development
    d. Monitoring and evaluation
    e. Data management/ analysis
    f. Behavioral work
    g. Epidemiology
    h. Other (Please specify)

3. In your future work do you plan to engage in public health work with non-domestic populations (including refugees or immigrants in the US)?
    a. Yes
    b. No
    c. Unsure

4. How well do you feel your RSPH degree is preparing you for your planned career path?
    a. Very well
    b. Fairly well
    c. Unsure
    d. Not very well
    e. Not at all well

5. If a degree in Global-BSHE had been offered when you were applying to RSPH would this have made RSPH…?
    a. Much more attractive
    b. More attractive
    c. Equally attractive
    d. Less attractive
    e. Much less attractive

6. If a degree in Global-BSHE had been offered when you were applying to RSPH, how interested would you have been?
    a. I would have applied for that rather than the degree I pursued.
    b. I would have considered applying for it but am unsure whether I would have chosen it over the degree I pursued.
    c. I would still have pursued the degree I chose.

7. Do you think a Global-BSHE degree should be offered at RSPH?
    a. Yes
    b. No
    c. Unsure
    d. Comments:

8. What skills do you think a degree in Global-BSHE should prioritize?

9. Do you have any additional comments?

END OF SURVEY

Appendix G- Alumni SURVEY

1. What degree did you receive from RSPH?
    a. MPH from the BSHE Department (Behavioral Sciences)
    b. MPH from the BSHE Department (Health Education)
    c. MPH from the BSHE Department (combined)
    d. MPH from the GH Department (Infectious Diseases)
    e. MPH from the GH Department (Community Health and Development)
    f. MPH from the GH Department (Sexual and Reproductive Health and Population Studies)
    g. MPH from the GH Department (Public Nutrition)

2. What areas of public health are you currently engaged in?
    a. Education
    b. Research
    c. Program development
    d. Monitoring and evaluation
    e. Data management/ analysis
    f. Behavioral work
    g. Epidemiology
    h. Other (Please specify)

3. What areas of public health do you ultimately plan to work in?
    a. Education
    b. Research
    c. Program development
    d. Monitoring and evaluation
    e. Data management/ analysis
    f. Behavioral work
    g. Epidemiology
    h. Other (Please specify)

4. Is your current work…?
    a. Domestic
    b. Global
    c. Both domestic and global

5. In your future work do you plan to engage in public health work with non-domestic populations (including refugees or immigrants in the US)?
    a. Yes
    b. No
    c. Unsure

6. How well did your RSPH degree prepare you for your planned career path?
    a. Very well
    b. Fairly well
    c. Unsure
    d. Not very well
    e. Not at all well

7. If a degree in Global-BSHE had been offered when you were applying to RSPH would this have made RSPH…?
    a. Much more attractive
    b. More attractive
    c. Equally attractive
    d. Less attractive
    e. Much less attractive

8. If a degree in Global-BSHE had been offered when you were applying to RSPH, how interested would you have been?
    a. I would have applied for that rather than the degree I pursued.
    b. I would have considered applying for it but am unsure whether I would have chosen it over the degree I pursued.
    c. I would still have pursued the degree I chose.

9. Do you think a Global-BSHE degree should be offered at RSPH?
    a. Yes
    b. No
    c. Unsure
    d. Comments:

10. What skills do you think a degree in Global-BSHE should prioritize?

11. Do you have any additional comments?

END OF SURVEY